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AUTHOR	Budoff, Milton; And Others
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ABSTRACT

This three volume report presents findings from an interview study with 103 children and adults regarding their awareness and conceptions of handicapping conditions and from a followup study of preschool handicapped and nonhandicapped students. Volume I details the design and results of the interview study focusing on Ss in five age groups: preschoolers, primary grade Ss, junior high school Ss, high school Ss, and adults. Among results were that there was a clear association between patterns of expressed awareness of handicap and age; there was no evidence of a relationship between sex and handicap awareness; a majority of confusions between handicaps involved mental retardation; patterns in explanation of causes varied with age; young children appeared to believe in immunity to handicaps; the percentages of Ss expressing realistic views of the curability of each handicap generally increased with age; Ss' understanding of adaptation appeared to begin as concrete and practical, becoming abstract and experiential with age; with age, Ss became more apt to mention phenomenological aspects of handicaps when asked what it would be like to be handicapped; and half the adolescents and nearly three-fourths of the adults expressed one or more nagative statements toward people with handicaps. Volume II reports results of systematic observation of handicapped and nonhandicapped Ss in mainstreamed preschools. Analysis of observation reports and teacher interviews were performed to determine which behaviors consistently differentiated handicapped from nonhandicapped Ss. Results revealed very few behaviors that were consistently associated with only one group of Ss across both preschools and all observation periods. In general, mildly handicapped Ss tended to behave more like their nonhandicapped classmates than did severely disabled Ss. Positive effects of socializing for both handicapped and nonhandicapped Ss were revealed, as were negative effects of the summer break on social behavior of handicapped Ss. Volume III contains the coding procedures used to analyze interview data. (CL)

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FINAL REPORT

THE DEVELOPMENT OF CONCEPTS OF DEVIANCE IN CHILDREN

Grant No. G007602459

VOLUME I

THE DEVELOPMENT OF CONCEPTS OF HANDICAPS: AN INTERVIEW STUDY

Milton Budoff and Susan Conant

The research reported herein was performed pursuant to a grant with the U.S. Office of Education, Bureau of Education for the Handicapped, U.S. Department of Health, Education, and Welfare. Contractors undertaking such projects under Government sponsorship are encouraged to express freely their professional judgment in the conduct of the project. Points of view or opinions stated do not, therefore, necessarily represent official U.S. Office of Education policy.

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Addendum: The coding manual for this study appears in Volume III of this final report.

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Susan Conant and Milton Budoff

FOREWORD

This report presents the findings of the grant entitled "The Development of Concepts of Deviance in Children" (# G00-7602459) awarded to the Research Institute For Educational Problems. As implemented, it consists of two major parts. The final report is presented as two volumes of text, with additional volumes which contain various appendices. Volume I presents the results of an interview study with samples of children and adults ranging from the preschool years to adulthood regarding their awareness and conceptions of handicapping conditions. A detailed summary of the procedures used, and the results is presented in the first section of this volume. The detailed procedures and findings are presented in this volume.

Volume II presents the findings of a study in which preschool handicapped and nonhandicapped children were followed for periods up to two years, an observation of their behavior occurring in the fall and spring of each year. The results indicate salutary effects on the handicapped children, with the degree of rather extensive differences at the onset of the first year diminishing over the course of the two years. An interesting finding when the behaviors are plotted sequentially over the two year period is that the summer break from school (from June through September) seems to result in a reversion to isolated, noninteractive patterns that earlier characterized the handicapped children's behavior. This behavioral change was not evident among the nonhandicapped. Thus, the progress the handicapped children are making in socializing themselves within the classroom during the school year seems to be set back by the long break for summer vacation. The findings, while based on small samples suggest distinctively positive advantages to mainstreaming these children. These data are presented in detail in the second volume of this report.

The remainder of this foreward will be concerned with the contents of this volume. The study reported in this volume presents important and timely data. At the present time, when there is considerable rhetoric and pressure to incorporate handicapped persons within the society, within the limits imposed by their handicaps, there is a real paucity of information about how nonhandicapped persons understand these persons. This incomplete understanding may partially account for the negative attitudes so frequently reported to be expressed toward handicapped persons.

Few attitude studies have addressed the content of the conceptions underlying these attitudes, merely noting the negative valence of the affect expressed. These are attitudes may hide ignorance of the effects of handicapping conditions, and the fear of the strangeness that accompanies this ignorance. We simply know very little about how nonhandicapped persons conceptualize the effects of the handicapping conditions -- how aware they are of them, what they are, how they affect the person, what causes them, and what the person can do who has such a condition(s).

These studies typically view attitudes as reflecting a readiness to act in a consistent manner toward a specified object, and have interpreted the negative statements as indicating antipathy or nonacceptance of the handicapped group. But they consistently ignore asking what the respondents's conception or understanding of the target group is.

A broader more usual definition considers attitudes as consisting of three components -- cognitive understanding of the object of the attitudinal expression, one's affective feelings, and the readiness to act. Studies of attitudes toward the handicapped have ignored the cognitive component. Few studies can analyze their results, controlling for the content of the conceptions motivating the response of the respondent. This results in considerable difficulty in interpreting the findings of negative statements since one can not know whether the respondents have a common understanding of the condition. The referent conceptions for the judgment are omitted. Does ignorance motivate the responses? Misconceptions? Actual negative contact experiences? There is no way of knowing, given the usual methodology employed in these studies. Yet one must know whether the respondents share a common conception, since one is imputed in the interpretation of the findings.

Working form a "sickness" model, since physicians are frequently closely identified with the care of these persons, we tend to derogate the ability of the handicapped to function independently, and design environments that foster and sustain dependence. Historically, we have isolated these persons in institutions, and/or have kept them apart from the society in other ways. With the rising tide of interest in the handicapped in the past decade, we have become more concerned about their situation. We have discovered, lo and behold, that nonhandicapped persons do not wish to relate to them, to have them as neighbors, are threatened by their strangeness, their differentness. But what do nonhandicapped persons know about these persons?

This question has been addressed cursorily in survey questionnaires, but with little depth. The nature of the understandings articulated and held by children of different ages has not been studied, yet we are currently developing many curricula to help children understand and be more tolerant of the handicapped children mainstreamed into their midst. It is these questions which the current study addresses in a first effort to understand the conceptions of children of different ages, anchoring these conceptions with those of a small sample of adults.

The information conveyed in this report and others which should amplify this work is critical to the design of the media and curricula presentations that are currently being developed to help children and adults better understand the perspective of the handicapped persons they will meet in their classes or their communities. The revolution in rights and expectations for the handicapped which was initiated in the 70s has made us all more aware of these persons' needs. The requirements for architechtural barrier removal has sought to make the environment hospitable to the handicapped person. Considerable funds have gone into this effort in school and other existing public buildings. New buildings must often be designed to be barrier-free. The various laws and regulations also require the people barriers be removed. Hence, the mandates to place children in schools in the least restrictive environment; to provide housing and other opportunities for handicapped adults in normalized settings within community, instead of institutions.

Legislating provides opportunities for change. Only people can make the changes occur at the person-to-person level intended. To accomplish these intended purposes, people must come to understand the nature and the needs of the handicapped in more salient terms. There must be movement toward understanding these persons as a condition for the handicapped and nonhandicapped to establish more positive friendship-based relationships. This can only occur if we know more about how the nonhandicapped conceive the handicapped, and vice versa. This study reports data related to these conceptions in the hope that these data will help structure the curricula and media events that help the community understand the handicapped.

Clearly age does make a difference in understanding the nature of handicapping conditions, and the data reported in this monograph should hepl teachers and parents structure their communications with children of different ages with differing types of messages.

Mainly, if we have helped derail the field from the fruitless reporting of attitude studies without qualification as to the content of the conceptions which the respondents have, we will have performed yeoman duty.

A Cross-Sectional Study of Concepts of Handicaps:

Summary of Procedures and Results

This summary describes the procedures and selected results of a cross-sectional interview study of concepts of handicaps expressed by subjects ranging in age from two years to adulthood.

The overall approach used in the study differs considerably from the approaches used in most previous research on the reactions of nonhandicapped people to handicapped people and handicaps. Previous research has generally used the strategy of obtaining small amounts of information from large numbers of subjects. In such studies, statistical analysis is directed mainly at showing the extent to which one may generalize from the sample to a larger population.

The approach used here has been to obtain a large amount of information from a relatively small group of people, who were interviewed at length about a variety of topics, and the main concern of the data analysis has been to describe the responses of subjects in a clear and detailed manner. The extent to which this kind of detailed description of a relatively small group of people may be generalized to other groups of people rests on logical rather than on statistical grounds.

There are two basic reasons we have chosen this highly descriptive approach. The first reason has to do with the purpose of this study: To provide useful information to people who actually deal with children on a day-to-day basis, as well as to people contemplating further research related to conceptions of handicaps. Second, there has been very little previous research describing in detail the content of beliefs about handicaps and handicapped people. The appropriate goal of this study, then, was to provide a rich initial description of the content of beliefs and not to focus on premature questions of generalization.

Method

The Study Design

This study uses a cross-sectional design with subjects in five age-grade groups: Preschoolers, primary-grade children, junior high school students, high school students, and adults. Because the age group of interest was people from preschool years through adulthood, the use of this cross-sectional rather than longitudinal approach was necessary. The weakness of this design is that it does not permit one to use data to draw conclusions about development in the way that a longitudinal design does. It does, however, allow one to obtain a general picture of subjects in different age groups in a way that suggests more and less likely hypotheses about development. The use of a design that yields data about a general picture of subjects at widely differing ages is appropriate given the exploratory nature of this study.

Subjects

Subjects were selected from suburban communities in the Greater Boston area. These communities are relatively prosperous towns and cities with good school systems. All subjects were nonhandicapped and came from families that contained no handicapped members. Subjects had had relatively little contact with handicapped people.

The preschool group was composed of 21 subjects (mean age = 3.4 years); the primary group, 26 subjects (mean age = 6.9 years); the junior high group, 21 subjects (mean age = 11.6 years); and the high school group, 24 subjects (mean age = 15.6 years). A small sample of adults ($\underline{n}$ = 11) in their thirties was also included. The preschool group contained 13 males, 8 females; the primary group, 12 males and 14 females; the junior high group, 6 males and 15 females; the high school group, 10 males and 14 females; and the adult group, 6 males and 5 females.

Interview Schedule

The interview schedule used in this study consists of a series of open-ended questions. The first section of the interview schedule contains questions about terms for discussing handicaps. Five sections are devoted, respectively, to questions about blindness, deafness, orthopedic handicaps, mental retardation, and psychological disturbance. A final section contains some general questions about handicaps. In addition, the interview contains two story dilemmas about handicapped children.

Data Collection Procedures

All interviews were conducted individually in a quiet, private location. Interviewers had been trained extensively, and used the interview schedule in a flexible manner, attending to the subjects' responses rather than adhering rigidly to the schedule. The interviewing procedure, in short, represents a compromise between the classic Genevan clinical method advocated by Piaget and his colleagues (e.g., Inhelder, 1968) and the demands of American research methods.

All interviews were audiotape-recorded and transcribed.

Coding System

Transcripts were coded using a variety of mainly nominal level variables. In addition, numbers of various kinds of terms used to talk about handicaps were coded: Number of blindness terms, deafness terms, and so forth, plus numbers of various kinds of offensive terms.

The unit coded was a reference to or mention of relevant material. Specifically, the units coded were not sentences, but rather, references to the handicapping condition or relevant pieces of information.

Interrater Reliability

Interrater reliability was examined by having each of the two coders independently code a subsample of 30 randomly selected interviews. Intraclass correlation coefficients (Winer, 1971) were used to assess interrater agreement for the coding of numbers of terms subjects used to discuss handicaps, while Kappa (Light, 1971) was used to assess interrater agreement for the remaining variables. Intraclass correlation coefficients for the coding of numbers of terms were all acceptably high (.73 or above). For the remaining variables, all with Kappas below .60 were excluded from analysis.

Results

The results reported here are a selected protion of the results. Frequencies of subjects in an age group mentioning various causes of a handicap, expressing certain stances toward handicapped people, and so forth, refer to percentages of subjects in the age groups who expressed at least minimal awareness that the relevant handicap exists, not to total numbers of subjects. In other words, frequencies for the younger age groups are not deflated by the inclusion of subjects who did not discuss a handicap.

Expressed Awareness of Handicaps

The observed patterns of expressed awareness of handicaps were described by means of Guttman scales.

Two scalogram analyses were performed on data about expressed awareness of the five handicaps about which subjects were questioned. These two analyses, in effect, define "expressed awareness" in two different ways. The first analysis examines minimal awareness: whether subjects responded to questions about a handicap with any content at all. The second, in contrast, examines the issue of whether the subjects gave evidence of knowing that a handicap, in fact, exists. One is tempted, then, to say that the first analysis uses lenient criteria to define awareness, the second, stringent criteria. In a larger sense, the stringent definition of this study is a lenient one.

Scalogram related to Minimal Awareness. For the purposes of this analysis, subjects were credited with "passing" an item if they engaged in any discussion related to the handicap, whether or not they seemed ever to have heard of the handicap before. For this analysis, a subject might talk about orthopedic handicaps as if these handicaps were all broken legs; might discuss what it would be like not to be able to see, without evident awareness that some people cannot see; and so forth, yet be considered to have "passed" the relevant handicaps. A "pass," then, means a demonstration of the ability to discuss any material relevant to the handicap.

The scale under consideration is composed of five items: discussing (a) psychological disturbances, (b) mental retardation, (c) orthopedic handicaps, (d) blindness, and (e) deafness. The scalogram analysis of "passes" and "fails" on these items was performed in such a way that the computer ordered these items from most to least difficult.* The analysis itself shows the extent to which the data conform to "ideal" patterns of passing and failing the five items composing the scale.

The most to least difficult order was chosen by the computer, with the "psychological disturbance" item most difficult to pass, then mental retardation, orthopedic handicaps, deafness and the blindness item. Of the 99 subjects on whom complete data for the analysis were available, 97 conformed to these ideal scale types.

These results indicate that if a subject discussed material related to only four of the five handicaps, the one he or she failed to discuss was psychological disturbance. If any two were not discussed at all, those two were psychological disturbance and mental retardation; if three, psychological disturbance, mental retardation, and orthopedic handicaps; if four, psychological disturbance, mental retardation, orthopedic handicaps, and blindness.

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*These analyses were performed using SPSS.

A statistic which reflects the extent to which the number of items a subject passes can predict his or her response pattern is the coefficient of reproducibility. For this analysis, the coefficient of reproducibility is .99. Clearly, the number of items passed is an excellent predictor of which items were passed.

Another statistic useful in evaluating the scale is the coefficient of scalability, which reflects the extent to which the scale is unidimensional and cumulative. For this analysis, the coefficient of scalability is .96. (This coefficient runs from 0 to 1.)

In short, if one defines "expressed awareness" in minimal terms as engaging in some conversation even marginally related to a handicap, then discussing the five handicaps is highly scalable. Children are most easily aware of deafness, then blindness, orthopedic handicaps, mental retardation, and least aware of psychological disturbance.

Expressed Awareness that a Handicap Exists. An analysis similar to that just presented was performed with "passing" an item defined in a different way. For this analysis, a subject "passed" an item if he or she supplied a term for the handicap (e.g., when asked about words for not being able to see, said "blind") or gave some other evidence of knowing that a handicap really exists. For example, a subject might "pass" the blindness item by describing a person who could not see using a white cane; or might make some other expression of awareness that there are blind people.

The scale under consideration is composed of the same items used in the previous scale, but "pass" was defined as noted above. This time, however, the computer's ordering of most-to-least difficult items differed somewhat: This time, deafness was more difficult than blindness.

Of the 99 subjects on whom complete data related to awareness were available, 85 showed patterns conforming to these "ideal" types. The coefficient of reproducibility for this analysis is .94, and the coefficient of scalability, .80.

In short, when one defines "expressed awareness" as an expression of awareness that a handicap really exists, the ordering from most to least difficult item changes slightly. The number of items subjects passed remains a good predictor of which items they passed, and the items are highly scalable. The statistics reflecting reproducibility and scalability are, however, somewhat lower than those for the previous scalogram analysis. However, the generalization still holds from the previous analysis. The more visible the handicapping condition, the greater the awareness. Psychological disturbances are least visible, and children are least aware of them.

Examination of patterns of expressed awareness of handicap showed a clear association between the patterns and the age groups. Using either definition of expressed awareness, the patterns involving the more difficult items characterized the older groups. The older groups show relatively few patterns, while the younger groups show more patterns. In particular, the preschool group showed most variation: While some children showed no awareness that any handicaps exist, others showed awareness of one, two, and even three different handicaps. Considerable variation was also evident in the primary grade group.

A point that also emerges from this examination is that the scaling of items from most to least difficult is a general characterization. It will not predict the single handicap a subject is aware of if he or she cites only one handicap. That is, subjects expressing awareness of one and only one handicap sometimes showed awareness of orthopedic handicaps or deafness rather than blindness--highly visible handicaps.

Sex Differences. Two statistics were used to test for a relationship between sex and expressed awareness of each handicap in each age group: Fisher's Exact Test and Pearson's *r*. No associations between sex and awareness even approached statistical significance ($p < .05$). The correlations between sex and expressing or not expressing awareness of a handicap, for each age group, were low and were not statistically significant ($p > .05$). In short, there was no evidence at all of a relationship between sex and awareness of handicapping conditions for any age group.

Confusions Between Handicaps. A total of 22 confusions between handicaps were observed, and 17 of the 22 involve mental retardation. Mental retardation was confused once with blindness, three times with deafness, three times with orthopedic handicaps, and ten times with psychological disturbances. In contrast, blindness and deafness were seldom confused, and then, mainly by the younger children. Orthopedic handicaps were confused with other handicaps only once.

Terms for Discussing Handicaps. Two different kinds of terms for discussing handicaps were examined: (1) technical words like blind, Down's Syndrome, Braille, and such, and (2) offensive terms.

1. Technical Terms. With increasing age, subjects used, on the average, more terms about each handicap. Furthermore, with increasing age, there was increasing variation. The average number of terms used did not level off during the high school years. Rather, for all types of terms except the miscellaneous ones, there was a sharp increase between the high school and adult groups.

There is a parallel between results concerning terms and those concerning patterns of expressed awareness in the sense that subjects generally used more terms for sensory and physical handicaps than for mental and emotional handicaps.

2. Offensive Terms. Three separate types of offensive terms were examined: (a) terms that are now offensive, but that were used without apparent intent to offend; (b) epithets, handicap-specific derogatory terms, and other offensive terms used without qualification; and (c) epithets, handicap-specific derogatory terms, and other offensive terms that a subject explicitly disowned.

Offensive terms were used quite frequently by subjects who evidently did not realize that the terms are, in fact, offensive. A few preschoolers, no primary grade children, 38.1% of the junior high group, 70.8% of the high school group, and 45.4% of the adults used one or more offensive terms in this naive way.

Offensive terms were used in an unqualified way by about one-third of the junior high subjects and about one-half of the high school students and adults. The children in the younger groups did not use these terms.

Mentioning and disowning offensive terms was notable mainly in the high school group, although it occurred occasionally in the junior high and adult groups as well.

Explanations of Causes

Several general patterns emerged from the examination of explanations of the causes of handicaps offered by subjects in different age groups.

First, young children showed little interest in the causes of handicaps and offered very few explanations. Although the preschoolers occasionally offered wildly fantastic ideas about causes (e.g., overeating as a cause of blindness), these strange ideas were voiced in a few dramatic cases and were not typical of the responses of the young children as a group. Rather, a typical picture of the preschooler's explanation of causes is one depicting a lack of interest and few ideas.

Second, after the preschool years, subjects seemed to show several general patterns in the development of ideas of causes. Explanations of causes became, with increasing age, more plentiful, more accurate, and more specific. Subjects, as a group, offered an increasingly wide range of probable explanations. Highly improbable responses decreased in frequency, although it should be noted that some such responses were observed among high school students. Most strikingly, with increasing age, subjects became notably more specific. For instance, the categories reflecting vague "something happened" or "just got ____" responses were little used by adults, who frequently named specific illnesses or metabolic disorders that cause various handicaps.

Third, among the older subjects (high school students and adults) one observes a rather heavy emphasis upon two general types of explanation: explanations in terms of accidents of one kind or another, and explanations in terms of factors present at birth. These kinds of causes are overemphasized for some handicaps. For blindness, to take one example, such explanations occur rather frequently, while references to perinatal events are underemphasized.

Finally, subjects emphasized organic rather than cultural-familial causes of mental retardation. Even among adults, reference to any causes that could be in any way interpreted as cultural-familial were uncommon.

Contagion and Immunity. In order to probe for ideas related to contagion without suggesting these ideas to children (i.e., to avoid sounding as if we considered the possibility a likely one), child subjects were told a story about two handicapped children, a blind child and a deaf child, then asked, "Could the blind child ever become deaf, or not?"

As the high school students all perceived, there is one and only one accurate answer to this question: Yes, it could happen. Only a single child gave a response related to contagion, a junior high student using a reasonable disease theory.

Indeed, the interesting findings pertain not to contagion but rather to an assumption of immunity. More than half the preschoolers replied that the blind child could *not* become deaf; 12.0% of the primary group gave this response, and one junior high student did so.

These results suggest that far from harboring beliefs that handicaps are contagious, young children may believe that immunities to handicaps exist. People are what they are; if they are not deaf, then they are not deaf. That is, preschool children seemed to think of handicaps in terms of static states rather than in terms of processes potentially involving transformation.

Views of Curability. Preschoolers gave either overly optimistic or overly pessimistic views of the curability of handicaps they discussed, or else provided uncodable answers or said that they did not know whether handicaps last.

Primary-grade children, in contrast, occasionally presented realistic views of curability. Junior high subjects expressed realistic views quite frequently, as did high school subjects. Finally, adults expressed realistic views frequently: More than half of the adults expressed a realistic view of the curability of each handicap. The percentages of subjects expressing realistic views of the curability of each handicap generally increased with age. As one might expect, preschoolers were unrealistic, older children and adults more frequently realistic about the curability of handicaps.

For the sensory handicaps, this pattern of increasing frequency of realistic views is the predominant result. For views of orthopedic handicaps, the results show another pattern. Primary-grade, junior high, and high school subjects frequently expressed optimistic views of the curability of orthopedic handicaps.

Concepts of Coping Devices and Adaptation

A clear developmental picture emerges from the data concerning references to various coping and adaptational devices. When preschoolers discussed ways to cope with handicaps, they discussed concrete, perceptually salient devices: sign language, canes, and such. Primary grade children mentioned those devices, and other concrete devices as well. Some primary grade children also mentioned the use of other senses to compensate for a handicap. They did not, however, refer to psychological adaptations. Junior high school students mentioned not only a variety of concrete devices and the use of other senses, but some referred to psychological adaptation, too. High school students, as a group, referred to concrete devices, sensory compensation, and psychological adaptation fairly often. The development of an understanding of adaptation to handicaps, however, appears not to reach an endpoint in the high school years. Adults, like high school students, mentioned concrete coping devices quite often; mentioned sensory compensation even more than did high school students; and mentioned psychological adaptation very frequently.

In short, concepts of how one learns to live with a handicap seem to show a general trend from an understanding of the concrete and external, to an understanding of the practical use of sensory information, to an understanding of inner, psychological adaptation. The data suggest that an understanding of adaptation begins as concrete and practical, and with age, becomes abstract and experiential.

Evaluations of Handicapping Conditions

In order to provide an overview of subjects' evaluations of various handicapping conditions, interviewers asked subjects which handicaps would be the hardest and the easiest to have.

In naming a handicap as the hardest or the easiest, very few subjects mentioned psychological disturbances. This was the case in age groups clearly aware of psychological disturbances, so the result is not a by-product of patterns of awareness of handicaps. One had the clinical impression that subjects did not think of psychological disturbances as hard or easy in the same way that they thought of other handicaps as hard or easy.

Blindness was mentioned as the hardest handicap by about half the subjects, although it was occasionally chosen as the easiest. Furthermore, it was chosen as one of the hardest handicaps by all age groups; that is, the high frequency of naming blindness is not simply a function of the large number of subjects aware of blindness.

What Would It Be Like To Be Handicapped?

With increasing age, subjects became more apt to comment on phenomenological aspects of handicaps; "what it would be like" increasingly came to mean "how one would feel."

Many adults said that it would be difficult or strange to have each handicap. Such comments were made by other subjects about sensory and physical handicaps rather frequently, but rarely about mental retardation and psychological disturbances.

The only handicap many subjects seemed to regard as frightening to have was blindness; remarks that it would be frightening to be blind were made by about half of the adults, high school students, and junior high students.

When preschoolers commented on the phenomenology of handicaps, as they seldom did, they were apt to say that it would be "no fun" or "hard." Primary grade children were much more apt than preschoolers to offer such a comment. The idea that it would be frightening to be handicapped appeared with notable frequency in the junior high age group; these subjects seemed to indicate a differentiation of the diffusely negative feeling that it would be "no fun." Furthermore, from junior high upward in age, subjects clearly made different remarks about the phenomenology of blindness and the phenomenology of other handicaps. That is, junior high age and older subjects often said that it would be frightening to be blind, and seldom made such comments about other handicaps.

The development of concepts of the phenomenology of handicaps, then, seems to involve (a) the differentiation of specific views from diffuse ones (e.g., frightening as opposed to "no fun") and (b) the differentiation of views of different handicaps (e.g., blindness is frightening).

Negative Feelings About Handicapped People

Interviews were examined for any expressions of strong "ugh" reactions, disgust, or revulsion toward people with any kind of handicap. These feelings were rarely expressed, and never expressed by children younger than high school age.

A stance that might be described as the opposite of pity is cynicism. Specifically, a "cynical" orientation, for the purpose of this report, refers to expressions of the idea that handicapped people "use the handicap" to gain special favor, to manipulate other people, and for other such purposes. This orientation was observed in junior high subjects when discussing orthopedic handicaps (23.8%) and mental retardation (9.5%). It was expressed by high school age subjects when discussing psychological disturbances (13.0%). It was expressed by adults discussing blindness (18.2%), deafness (18.2%), and psychological disturbances (33.3%).

The belief that handicapped people are harmful was stated by older subjects (junior high, high school, and adult subjects), not by younger subjects, mainly with the concern that acting out disorders may, in fact, involve danger to people. A few subjects did raise the theme in relation to handicaps other than psychological disturbances. None did so in relation to orthopedic handicaps. These results show that this theme is not a frequent one. It is noteworthy, however, when one considers the nature of the population in this study. In a group of bright, well-educated subjects, it is surprising to discover the emergence of this theme at all.

Older subjects were more apt than younger subjects to describe or express feelings of not knowing what to do--uncertainty, awkwardness, and such with handicapped persons. In general, blind people seem to arouse these feelings more than other handicapped people although some adults also reported these feelings in relation to psychologically disturbed people.

Summary. Of the 103 subjects in this study, 29.1% expressed one or more strongly negative statements toward people with a handicap. Only one preschooler did so, and none of the primary grade children did so. In contrast, 47.6% of the junior high subjects, 45.8% of the high school subjects did so, and 72.7% of the adults did so. That is, only a single child in the two youngest groups expressed a negative statement, while about half the adolescents and about three-fourths of the adults expressed one or more negative statements.

Sex Differences

The statistics computed to screen for areas of important difference between males and females were (1) chi square, or, when appropriate, Fisher's exact test, and (2) Pearson's r. The alpha level used was .05 for all tests.

Overall, there was very little indication of any male-female differences in discussions of handicaps. Particularly given the fact that repeated tests of statistical significance virtually guarantee finding some significance purely by chance, surprisingly few sex differences appeared.

Specific findings of sex differences are as follows: Junior high males more often than females made some strongly negative statements about handicapped people. In response to a story dilemma, junior high females more than males raised issues related to the character's social-emotional well-being and stated that such a character would certainly be teased or ridiculed.

Conclusion

This brief summary of selected results indicates that concepts of handicaps showed both qualitative and quantitative changes from the preschool years to adulthood. The changes evident with increasing age include not only changes in the amount of information and the numbers of terms subjects mentioned in discussing handicaps, but also changes in the kinds of responses characteristic of subjects in different age groups.

Preface

The problem of terminology occurs in the writing of this report as well as in its topic. The words one uses to discuss handicaps have personal and political meanings that go far beyond the particular characteristics of the people one talks about. Furthermore, the connotations of handicap-related terms change very rapidly. A word that seems acceptable at the time this report is written may have become offensive by the time the report is read. Because the topic of terms is an emotionally charged one, we would like to explain clearly why we use the terms we do.

The basic criteria used in selecting terms were clarity, brevity, and acceptability to handicapped people. We tried to avoid ambiguous terms, long terms, and offensive terms. As a general term, we use handicap. Many people prefer the word disability to the word handicap on the grounds that the former seems to them natural, while the latter seems to suggest low ability or low expectations of competence. It is not clear that this distinction is a general one. To us, disability suggests low ability, whereas handicap does not. Furthermore, the word handicap is in general use: The Bureau of Education for the Handicapped and numerous organizations use the term. Another possible term, favored increasingly by educators, is non-able-bodied. For our purposes, this term was very misleading. We needed a term for people who are mentally retarded and psychologically disturbed as well as for people with sensory and physical handicaps. Many handicapped people are able-bodied, including those with orthopedic handicaps. Consequently, we have avoided the terms able-bodied and non-able-bodied in spite of the current popularity of these terms.

With regard to labels for specific handicaps, we have chosen common, short terms as much as possible. We are, of course, aware that some of these terms are inaccurate. For instance, although we use the word deaf, most "deaf" people have, in fact, some hearing. The one common label we have avoided is the term mentally ill. To use the term mentally ill is, in effect, to commit oneself to one particular model for understanding psychological disturbances, and we wanted to avoid a commitment to that model.

Finally, it is generally more accurate and more acceptable to talk about people with handicaps as individuals and as people with handicaps than it is to talk about "the blind" or about "the handicapped." Unhappily, the necessity of referring repeatedly to groups of handicapped people and groups of people with specific kinds of handicaps has sometimes resulted in the use of language that might suggest a treatment of handicapped people as nonpersons characterized only by their handicaps. It is our hope that readers will bear in mind the difficulty one encounters in finding clear, brief, and acceptable terms. When one undertakes the task of writing a lengthy description of complicated interview data, one may, we hope, be excused for writing "deaf people" instead of "people who have auditory impairments," and for other uses of brief terms.

CHAPTER 1. INTRODUCTION

The overall approach used in this study differs considerably from the approaches used in most previous research on the reactions of nonhandicapped people to handicapped people and handicaps. As the literature review section of this report shows in detail, previous research has generally used the strategy of obtaining small amounts of information from large numbers of subjects. It is not uncommon to read studies in which 100, or even 1,000 subjects have been given a test of attitudes or a questionnaire (e.g., Budoff, Siperstein, & Conant, 1979; Lukoff & Whiteman, 1963). In such studies, statistical analysis is directed mainly at showing the extent to which one many generalize from the sample to a larger population.

The approach used here differs radically from the kind of research described above. First, our approach has been to gain a large amount of information from a relatively small group of people. In this area of research, the sample size of N=103 is not very large. On the other hand, each of these 103 subjects was interviewed at length about a variety of topics. Second, the main concern of the data analysis has been to describe the responses of subjects in a clear and detailed manner. The extent to which this kind of detailed description of a relatively small group of people may be generalized to other groups of people rests on logical rather than on statistical grounds.

There are two basic reasons we have chosen this highly descriptive approach. The first reason has to do with the purpose of this study: to provide useful information to people who actually deal with children on a day-to-day basis, as well as to people contemplating further research related to conceptions of handicaps. If one is to discuss handicaps with nonhandicapped children, to design educational materials, to make accurate estimates about nonhandicapped children's reactions to handicapped people, it is more useful to have available a rich description of the specific kinds of things children say about handicaps than it is to know that children may show "negative attitudes" or may score high on "concreteness."

Second, as the literature review section of this report shows, there has been very little previous research describing in detail the content of beliefs about handicaps and handicapped people. Although there has been an enormous amount of research devoted to attitudes, sociometric positions, and other aspects of reactions to handicapped people, the study reported here was exploratory in the sense that very few previous reports describe what people said when asked about handicaps and handicapped people. The appropriate goal of this study, then, was to provide a rich initial description of the content of beliefs and not to focus on premature questions of generalization.

The most appropriate previous work available to us, as a methodological precedent, was not the massive amount of previous research largely concerned with the valence of the attitudes expressed to handicapped persons, but the work conducted by Piaget (1960) on children's conceptions of the world.

To take a "Piagetian" approach has increasingly come to mean, at least in American psychology, that one advances a stage theory of development and then tests the validity of this stage theory. In this report, we take a somewhat different "Piagetian" approach from the stage theory-stage theory validation one. Specifically, our approach is "Piagetian" in several ways that are not directly related to the problem of developmental stages.

First, our approach is phenomenological. In understanding the development of concepts of handicaps, we want, first, to know how children experience handicapped people and ideas of handicaps. What is "blindness" to a preschool child? If a second-grader hears the words "mentally retarded," what meaning does he attach to these words? In other words, we are interested in the content of beliefs more than in broader questions of the abstract structures of thought.

Second, our approach is developmental. The essential question asked in this study is the question of how adults come to conceptualize handicaps, and the way we go about answering this question is to look for the origin of adult conceptions in childhood conceptions.

Third, the assumptions we make are constructivist. We assume, as Inhelder says, that "knowledge is...neither preformed in the object (empiricism) nor in the subject (nativism) but results from progressive construction: reality is continuously restructured through the subject's own activities" (1978, p. 122). In looking for answers to the developmental question of how children arrive at an adult understanding of handicaps, we will focus on interactions between the characteristics of the child and the characteristics of the concepts of interest. For instance, in trying to describe how the preschool child understands blindness, we assume neither that he, in effect, copies reality in creating photograph-like images related to blindness, nor that he innately understands blindness (or, more weakly, has some innate structure somehow ready for that understanding). Rather, how he understands blindness comes from an interaction between the structures he has available and the reality with which he has experience.

As Kohlberg (1968) points out, such a constructivist approach does not mean merely that both innate and environmental influences contribute quantitatively to development. Rather, in a constructivist approach, both the internal structure of the child and the external structure of reality, in interaction, are the sources of patterns in the child's thought. In practical terms, this distinction means that we will not, for instance, ask whether developmental level or contact with handicapped people contributes more to quantitative understanding of handicaps. Rather, we will look for the sources of patterns in understanding handicaps in interactions between children's cognitive structures and the nature of the content of interest.

Studying children's understanding of handicaps within a cognitive-developmental framework means, at its most general level, studying children's adaptation to a particular aspect of the social world, the existence and characteristics of people with a variety of mental, emotional, and physical problems. In this report, the term handicap refers to such conditions, including blindness, deafness, mental retardation, and physical disabilities, as well as social, emotional, and behavioral disturbances.

Adaptation, in this framework, does not suggest a process of passively taking in increasingly greater amounts of information about the environment or of creating an increasingly accurate photograph-like image of the environment (Inhelder, 1968). Rather, it suggests an interactive process between the child and the social environment, "an equilibrium between the action of the organism on the environment and vice versa" (Piaget, 1972). In Piagetian theory, this interactive process has two aspects--assimilation and accommodation. Assimilation is "the action of the organism on surrounding objects, insofar as this action depends on previous behavior involving the same or similar objects (Piaget, 1972, p. 7), and accommodation is the modification of the assimilatory cycle.

Specifically, to adapt to difference in the social world is to integrate perceptions and conceptions of difference into previously existing structures, and to modify those structures when such assimilation is not possible. To study the development of children's understanding of handicaps and the handicapped within this framework, then, means to find out the concepts to which children first assimilate observations about handicaps and the handicapped and to find out what modifications occur in concepts related to handicaps and the handicapped in the course of development. The concrete aim of a study within this framework is to arrive at a description of qualitative differences in understanding that characterize the thought of children of different ages.

This kind of approach to studying the development of thought has been applied to a variety of content areas. Piaget's early work (e.g., Piaget, 1969) describes children's beliefs about dreams, the movement of clouds, the origin of trees, and numerous other content areas. Piaget's basic approach has been applied to many other areas, particularly those concerned with children's understanding of the physical world. Within the last decade, there has been increasing emphasis on children's understanding of the social world: emphasis on moral development (Kohlberg, 1969), and on social cognition (Flavell, 1970; Feffer, 1970; Selman, Damon, Gordon, & Lieberman, 1973). Simultaneously, there has been increasing emphasis on studying cognition in naturally occurring situations rather than in situations people usually encounter only in laboratory settings (Kuhn & Brannock, 1977).

In perspective, then, the study reported here is a study of one kind of naturally occurring social cognition. In a broad sense, the question it addresses is familiar from other investigations of social cognition: In what distinct ways is thought about people organized over the course of development?

In a number of important ways, however, the study reported here differs from most other work in the field of social cognition. First, the primary goal of most studies within the cognitive-developmental framework is to answer questions like that posed above--that is, to answer the basic developmental question of how adult structures originate. Typical primary goals of many studies within this framework include validating stage theory and adding to psychology's understanding of the general mechanisms of change from lower to higher cognitive stages. In such studies, the particular content of the study is often largely a means of investigating such theoretical issues. For example, Kuhn and Brannock (1977) presented subjects with a problem involving house plants because of an interest in the ability to isolate variables, not because of an interest in the understanding of horticulture per se. In contrast, the study reported here is primarily concerned with the content of beliefs about handicaps. The theoretical questions are of secondary interest.

Second, unlike concepts about dreams, the origin of trees, the conservation of volume, weight, and substance, and other such areas, concepts about handicaps cannot be assumed to be highly developed in adults. Experience with internal processes like dreaming, with social processes like making friends and arriving at moral judgments, and with processes in the physical world can be assumed for adults, although adults differ in the extent to which they are interested in different content areas. The physicist has a more highly elaborated concept of electricity than does the layperson, and so forth. In this society, many adults have little occasion to think about the handicapped, little contact with information about handicapped people that would require modifying or elaborating concepts about handicaps. Consequently, one may not assume that this is a content area to which adults necessarily have had occasion to apply much thought.

The amount of accurate factual information a person has about the handicapped is clearly not a measure of the person's level of thought, in the sense of his ability to use hypothetico-deductive reasoning should he happen to think about the handicapped. For the present, however, amount of information might be taken as a rough index of the salience of the topic. In general, studies indicate that American adults are ill-informed about handicaps. For example, Gottwald (1970) reports on a large-scale survey about public knowledge of mental retardation in which only 45% of the respondents described mental retardation in terms of mental deficiency (6.5% indicated that "mentally retarded" meant "mentally ill"). Respondents also gave gross underestimates of the prevalence of mental retardation, blindness, cerebral palsy, and other disorders. In other words, while one may assume most adults to have cognitive capacities for thought qualitatively different from those of the child, one may not assume adults to have applied their capacities to the fullest in thinking about the handicapped.

A third area of difference between the study reported here and many related studies of social cognition is that handicaps represent a content area very heavily laden with social and emotional meaning. The problems of eliciting accurate information from subjects are even more evident in studies about concepts of handicaps than in other areas of social science research. The same reasons that make it important to study concepts of the handicapped also make it difficult to do so accurately.

In summary, then, one goal of this study is to broaden the scope of research on the child's conception of the world. This study, then, is of one particular kind of social cognition, but differs from other cognitive-developmental studies in that its aim is largely educational and practical, focused on content rather than on cognitive structure and process in the abstract; in that the existence of highly elaborated concepts about handicaps cannot be assumed for adults; and in that the content of the study involves a vulnerability to response biases.

Aims of the Study

This study, in contrast to related studies of social cognition, is essentially educational and practical in aim. Given the increase in mainstreaming in schools together with conflicting results of previous research, it aims at generating information to be used in informing those who make decisions about mainstreaming and in implementing mainstreaming in classrooms. It does this in two ways: First, it provides data to clarify previous research findings. Second, it presents data of a different kind from that generated by most previous studies. Specifically, clarifying previous research and generating a new kind of information means using data from clinical interviews.

Clarifying Previous Research

Research concerned with children's perceptions, conceptions, and attitudes related to handicaps has previously relied mainly on highly standardized and structured measurement instruments: adjective checklists, social distance scales, peer acceptance scales, questionnaires, and such. (An exception, discussed in later chapters, is Coie & Pennington, 1976.) Without digressing into a general critique of such instruments, it should be noted that these instruments are often used partly because their use is meant to insure equivalent stimulus-value, and partly because they provide data that are convenient to code and analyze, not because they are maximally informative.

One example illustrates a major drawback to the use of such instruments for studying thought related to the handicapped. Gottlieb and Gottlieb (1977), in a study of junior high school age children's "stereotypic attitudes" and "behavioral intentions" toward mentally retarded and crippled children, had subjects read two paragraphs. One paragraph described a retarded child, the other, a crippled child. After reading the paragraphs, subjects responded to an adjective checklist and a social distance scale--measures, respectively, of stereotypic attitudes and of behavioral intentions. Results indicated that subjects' stereotypic attitudes toward the crippled child were more favorable than were their attitudes toward the mentally retarded child, but that behavioral intentions did not differ in response to two descriptive paragraphs.

As the authors note, however, these results are difficult to interpret when one considers another piece of information. Namely, some subjects rated the mentally retarded child as "smart" and "bright" on the adjective checklist. In other words, neither the authors nor the reader can tell what the subjects meant by these responses. One cannot tell whether subjects ignored the descriptive paragraph, misread it, used "bright" and "smart" in nonstandard ways, felt favorably inclined toward the retarded child and hence rated in a generally positive way, or responded in some other fashion.

This problem in interpretation arises not only with regard to these particular and peculiar results. That is, one does not know what subjects mean by checking off "bright" as descriptive of a retarded child. One also has no data to aid in interpreting what subjects mean by checking off any other adjectives. Numerous other problems with this area of research could be raised. The main point here is that such research is unclear to readers, and hence of limited practical value, unless information is available to aid in interpretation. That is, information about how children spontaneously describe real retarded children, information on how children use terms like retarded, information on children's responses to questions about what they mean by what they say.

Limitations of Interview Data

Two particular limitations of interview data are important to note. First, the results from interviews pertain to what subjects expressed in the interview situation. The results do not reveal (1) what the subjects knew, or (2) what they might have said in different contexts. Second, in interpreting results, it is important to bear in mind which questions subjects were and were not asked.

To illustrate these points, consider the issues of fantasies about handicaps. Subjects in this study were not asked whether or not handicapped people have special gifts or abilities. Interviewers did not ask, for instance, whether blind people have great musical ability, special intuition about people's innermost beings, supersensitive hearing, or facial vision. As discussed elsewhere, there were several reasons to avoid posing these questions. Since these questions were not asked, the results concerning fantasies and other topics to which subjects were not explicitly directed are not results comparable to those that would have been obtained had subjects been asked. They are results about what subjects mentioned spontaneously.

The interview time devoted to the discussion of a handicap provided the subject with the opportunity to discuss aspects of the handicap and perceptions of handicapped people. Results pertaining to topics about which subjects were not directly asked reflect how subjects used the interview time, not what they might have said if they had been questioned directly on the particular issue.

Concepts of Handicaps

Since the study reported here is an initial effort to describe the development of concepts of handicaps and handicapped people, it is appropriate to inclu[illegible] a brief discussion of what these concepts are. We do not [illegible]take the massive task of giving a precise definition of "a concept" in general. The framework used here is a cognitive-developmental one rather than a behavioristic one; concepts are cognitive entities, not simply dispositions to produce observable behaviors, for the present purpose. The reader who seeks an extended discussion of concepts and concept development is referred to Flavell (1970).

In studying the development of concepts of handicaps and handicapped people, one is asking a specific form of the basic developmental question: What is the origin of adult structures? Specifically, what are the origins of adult concepts of handicaps? In order to answer this question, it clearly is necessary to spell out what one means by "adult concepts of handicaps." In this study, we shall not assume that adult concepts are somehow ideal or perfectly mature concepts. Indeed, since data are presented about adult subjects, the particular beliefs of adults are a topic of investigation rather than a set of a priori assumptions. We will, nonetheless, assume that an adult concept includes the following components or subconcepts:

1. An awareness that handicaps exist and are distinct from one another;

2. A basic idea of what a handicap is; a set of criterial

properties for a handicap;

3. A set of noncriterial properties of a handicap; ideas related to concepts of handicaps that do not define the handicaps.

4. Emotions that are attached to these concepts.

Specifically, the adult concept is taken to mean a basic idea of what a handicap is; who is and is not handicapped; what handicapped people are like; what it would be like to have a handicap; some idea of the causes of handicaps; an understanding of the relative permanance of a handicap; a sense of the experiential and social ramifications of being handicapped; and some feelings about handicaps and handicapped people.

The questions about development that arise, then, are questions like the following: Are young children aware of different handicaps as handicaps, and as handicaps distinct from one another? What criterial properties do children associate with handicaps? To what concepts do children assimilate ideas of handicaps? What affects do children attach to concepts of handicaps?

CHAPTER 2. REVIEW OF THE LITERATURE OF CONCEPTIONS OF HANDICAPS

A comprehensive review of the literature relevant to the present study would be an immense project because it would involve reviewing literature on blindness, deafness, mental retardation, and other handicaps, and because it would involve literature in many disciplines. Relevant research has been done by social psychologists, psychoanalysts, anthropologists, sociologists, developmental psychologists, and people in other disciplines as well. Within the social sciences, some research involves behavioral observations, some involves clinical interviews, some involves attitude scales and other such structured instruments. This review is not intended to be a comprehensive review. In deciding which literature to include and exclude, and which to emphasize and de-emphasize, we have been biased in certain ways. Furthermore, in covering work from a variety of disciplines, we have passed over some distinctions that are of importance in particular fields. Consequently, the following points should be noted about this review.

First, the aim of the review is to note ideas, finding, and conclusions about what people think about handicaps, how they feel about handicapped people, and other such topics. These thoughts and feelings are sometimes called attitudes, sometimes concepts, sometimes beliefs, sometimes perceptions. These terms are used here in a very loose, nontechnical way except when a specific, technical use is noted. The point of the review is to explore the literature on the content of interest, not to become involved in making distinctions between concepts and attitudes, or between conceptions and perceptions, and so on.

Second, this is not a methodological review. While it contains an occasional methodological note, it entirely ignores details about studies that would be of primary interest to the methodologist. For example, a number of studies are discussed in which the appropriateness of the statistical analyses is questionable; the review usually does not mention these problems.

Third, largely because the present study uses interviews, the emphasis in the review is on studies in which investigators actually talked with subjects. Considerably more detail is presented about studies in which the investigator gave subjects a forced-choice questionnaire or an attitude scale or used some other such procedure.

Fourth, the extent to which different parts of this review cover studies of behavior varies. The main emphasis is not on behavioral observations. Sometimes, however, particular studies of behavior seemed relevant to this study. Sometimes, the only research available on a topic was behavioral observations. In such cases, studies of behavior are noted. This neglect of research on behavior does not reflect any devaluing of such research. Rather, the potential breadth of topics to be covered was so large that it was necessary to eliminate some areas of research in a somewhat arbitrary fashion. Behavioral observations have been ignored in this way.

Blindness

As Monbeck (1973) and Whiteman and Lukoff (1965) discuss, the blind as a group receive more public attention and have more agencies devoted to their betterment than do other groups of handicapped people. This attention to blindness is reflected in the comparatively large number of high quality books and articles published which deal with the history and social meaning of blindness (e.g. Monbeck, 1973; Koestler, 1976; Schauer, 1951; Himes, 1951; Braverman, 1951; Foley, 1938). In spite of interest in the topic of attitudes toward the blind and beliefs about the blind, few empirical studies have investigated the assumptions evident in general discussions (e.g., Lowenfeld, 1963; Goodman, 1970) and in recommendations for educational practice (e.g., Rottman, 1958).

Studies of Children

Wolman (1958) provides detailed anecdotal observations of the reactions of children (ages 2 1/2 to 6 years) and teachers to 15 blind, 6 partially sighted children in mainstreamed nursery schools and kindergartens. According to Wolman, these sighted children seemed to be aware of the blind children's handicap, but not aware of the handicap involved in partial sight. The blind preschoolers were mainly well-integrated and accepted. Ignoring and rejecting these children was rare. Furthermore, the sighted children seemed to understand and accommodate to the needs of the blind children. According to Wolman, the sighted children provided auditory cues, removed obstacles, and otherwise facilitated the participation of the blind children in activities.

Wolman gives a different picture of reactions to the partially sighted children. The sighted children seemed incurious about these children and displayed much more exclusion and rejection of the partially sighted children than of the blind children. According to Wolman, teachers, too, showed this pattern of easy acceptance of the blind children, difficulty with the partially sighted children.

Wolman attributes these differences in reactions to a difference in the personality characteristics of the blind and the partially sighted. It is possible, of course, that the difference in behavior may be related to the relative difficulty in understanding partial as opposed to total or nearly total blindness.

An anecdotal report (Simon & Gillman, 1979) of the integration of 4 visually handicapped preschoolers into a private preschool seems to support Wolman's conclusions about teacher and pupil difficulties in dealing with partially sighted children. Simon and Gillman's report, however, merely refers to the children as "visually handicapped." It is not clear whether these children were partially sighted or were totally or nearly blind. If the term visually handicapped is not simply a euphemism for blind, Simon and Gillman present a picture similar to Wolman's portrayal of reactions to the partially sighted. Teachers and pupils are reported as reacting with considerable anxiety to the visually handicapped children. "Negative behavior directed toward the handicapped students seemed to increase in frequency as the year progressed. The handicapped children were excluded from games, infantilized during dramatic play, and taunted." (Simon & Gillman, 1979, p. 463.)

Jones, Lavine, and Shell (1972) gave a sociometric questionnaire to 477 fourth- through sixth-graders who attended school with blind children. The blind children were in regular classes. The blind children were mentioned less frequently than were sighted children on most sociometric items. Some of the blind children, however, were sociometric "stars", i.e., were chosen frequently.* In this study, low status sighted children tended to be more accepting of the blind children than were other sighted children.

Bateman (1962) administered a 50-item questionnaire to two groups of sighted children in grades three through eight, 117 of whom knew and attended school with blind children, 115 of whom had never known blind children. Results indicated that the subjects who knew blind children perceived blind children as more capable than did subjects who did not know blind children. Percentages of favorable responses increased with grade level. According to Bateman, subjects who knew one, two or three blind children gave more negative responses than did subjects who knew more than three blind children or who knew none.

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* Because many studies of reactions to handicapped people have used sociometric techniques, a very brief description of such techniques and of the terminology used in sociometry may be helpful. Most sociometric measures ask respondents to name members of a specified group with whom they would like to perform certain behaviors (e.g., "Which children in your class do you like to play with?"). The particular questions are usually adapted to the needs and interests of respondents, so that very young children are given specific questions about familiar activities (e.g., "Which children in your school would you invite to your birthday party?")

The responses to such questions yield a classification of the members of the group into three categories: a sociometric "star" is chosen or mentioned in a positive way by many peers; a "rejectee" in a negative way by many peers. An "isolate" is a seldom mentioned child. For example, a child who is mentioned frequently in response to the question, "Which children would you invite to your birthday party?" is a "star". A child mentioned frequently in response to the question, "Which children would you not invite to your birthday party?" is a "rejectee". A child seldom mentioned in response to either of these questions is an "isolate".

Steinzor (1966) interviewed 108 elementary and junior high school children using a story completion technique. Some of these children were or had been in classes with blind children; others had only been in schools with blind children; while others had had no school contact with blind children. For the elementary school children, "the lowest attitudes of cooperation and highest attitudes of rejection toward blind children were found among their present classmates" (p.313), especially among children experiencing their first school contact with blind children. The most positive attitudes were found in children who had previously spent one or more years in classes with the blind but who were not in classes with the blind at the time of the study. Steinzor describes these findings as "shock at first encounter" (p.313). In contrast, for junior high school children, contact with blind children was associated only with positive attitudes.

Lukoff and Whiteman's (1963) major study of attitudes toward blindness includes a study of a large sample (N=2,452) of high school students. The report of this study (Lukoff & Whiteman, 1963) is particularly noteworthy because it pertains to specific beliefs.

Lukoff and Whiteman asked these high school students to show the extent to which they agreed or disagreed with a number of statements about blind people. It should be noted that these statements were not obtained from subjects; rather, subjects were presented with the statements. The results show that many subjects agreed with certain statements. These "popular" statements, with which over two-thirds of the subjects agreed, include the following beliefs: blind people have greater ability to understand other people's suffering; tend to be more understanding than sighted people; tend to get a more accurate first impression of others than most people do; are more appreciative of the finer things in life, like good literature and music. Over two-thirds of the subjects also agreed that blind people were better off in their own schools, and that becoming blind would be more frightening than becoming handicapped in any other way.

Over two-thirds, however, disagreed with the following: that the blind are more unhappy than other physically handicapped people; that many blind persons nurse some resentment at the sighted; and that blind people are more easily upset than are the sighted. (For further details, see Lukoff & Whiteman, 1963, pp. 136-140.)

Studies of Adults

The major work on attitudes of sighted adults toward blindness is that of Whiteman and Lukoff (1962; 1965; Lukoff & Whiteman, 1961, 1963). (This work is also noted later in connection with attitudes toward different groups of handicapped people.) The main point of this work is that attitudes toward blindness differ from attitudes toward blind people. According to Whiteman and Lukoff (1962, 1965), these "attitudinal components" are independent.

Whiteman and Lukoff (1965) studied these two components by having adult subjects (41 social work students) respond to semantic differential items, paired antonyms, in terms of blind people and in terms of blindess. Attitudes toward blind people are reported as more favorable than attitudes toward blindness. According to Lukoff and Whiteman (1961), the blind are not seen as abnormal or as emotionally disturbed, but are seen as a special group, requiring specialized care rather than assimilation.

In the only study which, to our knowledge, has attempted to investigate the question of whether or not people actually believe in a "sixth sense" of the blind and in other such dramatic ideas, Chombeau (1965) gave a 65-item questionnaire to 339 college students. Chombeau reports that a fairly large proportion of subjects agreed with the statement that the blind have a sixth sense (29 of the 399 strongly agreed, 149 agreed). There was frequent agreement that it is worse to cheat the blind than to cheat the sighted. The subjects did not, on the whole, see the blind as melancholy, nor did they agree that blindness is the worst of all physical handicaps.

The literature suggests, then, that elementary school children who know only a few blind people may express negative attitudes toward the blind. Otherwise, studies of children's and adults' attitudes toward blindness seem to be more negative than attitudes toward blind people. The research results concerning the question of whether or not blindness is seen as the worst kind of handicap seem to be unclear.

Studies do, however, suggest that concepts of blind people and blindness may be distortions of reality, in that subjects seem to agree at rather alarming rates with some idealized, fanciful notions. The picture that emerges from the research literature is one of distorted perceptions and somewhat subtle biases rather than one of blatant rejection.

Deafness

Hearing impairment is "the most prevalent chronic physical disability in the United States" (Schein & Delk, 1974, p.1), but is a handicap which receives relatively little attention (see Schein & Delk, 1974, p.1). There are, to our knowledge, few empirical studies of attitudes toward deafness and the deaf, although some information about these attitudes is available from studies comparing attitudes relative to different kinds of handicaps. Two studies, however, are useful for our purposes, since they cover subjects over a wide age range.

Horowitz, Rees, and Horowitz (1965) had sixth-graders, high school students, college students, graduate students, and adults (PTA members) agree or disagree with 97 statements about the treatment, training, personal characteristics, and achievement characteristics of the deaf. They claimed their results showed "increasing maturity and sophistication" (p. 336) with increasing age and education. An examination of their methods of data analysis and of the means they present, however, suggests that this conclusion may be unwarranted, first, since multiple significance tests were performed, and second, since differences between means are small enough to suggest clinical unimportance even with statistical significance.

An earlier study by the same authors is methodologically less ambitious but is considerably more informative for the current purpose. Horowitz and Rees (1962) studied three groups of subjects. The first group, 100 children in grades one, two, three, and four, were read a story about a deaf child and were then questioned about the story. The second group, 82 children in grades five, six, and eight, were shown pictures of deaf people and asked to respond to a questionnaire about these stimuli. The third group, 84 college students and adults, were simply given a questionnaire.

This use of different procedures with different groups raises the possibility that results are attributable to the use of different stimuli rather than to differences in groups themselves. Horowitz and Rees do, however, present lengthy descriptions of responses and succeed in conveying a credible picture of how subjects actually responded. Since such a picture is rare in this area of research, it is reviewed at length here, with the cautionary note that because different procedures were used with different groups, this should be taken as a pilot study.

Subjects in the first group, primary-school children, were able to define deafness as the inability to hear. In discussing the story about a deaf child, they were clear that deafness is related to speech difficulty, but were apparently confused about how well the deaf child could learn to talk. According to Horowitz and Rees, there was also some confusion of hearing and sight and confusion about whether or not the boy in the story would have difficulty reading. Children in this age group are described as showing a generally friendly attitude toward the deaf.

Subjects in the second group, fifth-, sixth-, and eighth-graders, appear to differ from the younger subjects mainly in awareness of causes of deafness and in awareness of the inconveniences of using a hearing aid. Fifth- and sixth-graders mentioned injury as a cause of deafness more than did eighth-graders.

A comparison of the children's responses with those of the adults shows, according to Horowitz and Rees, an increasing tendency with age to define deafness as total rather than partial hearing loss. Subjects of all ages seldom seemed to understand exactly how deafness and speech are related. If anything, the children understood this relationship better than did the adults, in that children mentioned the deaf person's inability to hear himself. (Note again that different stimuli and procedures were used for different groups.) Furthermore, the children are reported as more apt than the adults to know that a hearing aid does not provide normal hearing. Subjects in all three age groups are described as taking a somewhat patronizing attitude toward the deaf.

Horowitz and Rees conclude that their study provides no evidence of an increase in amount of accurate information or of an increase in maturity of attitude with age. This conclusion is the opposite of the one reached by Horowitz, Rees, and Horowitz (1965).

Several studies have focused on the integration of hearing impaired children in regular classes. Brackett and Henniges (1976) examined the communicative interaction of 13 hearing impaired preschoolers in an integrated setting. These hearing impaired children were found to interact more with hearing children in free play situations than in a structured language group. In other words, spontaneous play among the hearing and hearing impaired children did occur.

Elser (1959) studied the social position of 45 hearing impaired children in regular third- through seventh-grade classes by giving sociometric tests to the hearing impaired children and their classmates, a total of 1,258 subjects. The hearing impaired children were, overall, not as accepted as were the other children. Statistically significant differences are reported only for those hearing impaired children who did not wear hearing aids and for those with mild rather than severe hearing loss. That is, the children with obvious, perceptible disability were as well accepted as the hearing children.

Kennedy, Northcott, McCauley, and Williams (1976) report on two studies of hearing impaired children in regular classes, a cross-sectional study and a three-year longitudinal study.

In the cross-sectional study, 15 first- and second-graders with hearing impairment and their classmates were given sociometric tests. Results showed that children with severe to profound hearing loss were selected more frequently than hearing children or children with mild hearing loss.

The longitudinal study followed 11 children with severe and profound hearing loss. During the first year of the study (apparently, of children in about the second grade), these children were chosen more often on a sociometric test than were hearing children; during the second year, about equally often; during the third year, less often.

Anecdotal reports (e.g., Frick, 1973) also give a rather positive picture of the integration of hearing impaired children into regular classes. Many such reports, however, appear in the Volta Review, a journal which shows considerable concern for the relationships between deaf children and the hearing world. There may be, then, some bias in the publishing of accounts of integration.

The Semantics of Deafness

The issue of the extent of hearing impairment is an important one in studies of reactions to the hearing impaired. The few available studies suggest that the child with only mild hearing impairment may be worse off in social relationships with hearing peers than the child with severe hearing impairment.

Another kind of concern has been raised about children with mild hearing impairment. Ross and Calvert (1967), in discussing the "semantics of deafness," express concern that the label deaf applied to children with some hearing may result in a self-fulfilling prophecy. The child who has some useable hearing but is called "deaf" may be treated as if he or she could hear nothing, so that, in effect, he or she might as well be totally unable to hear.

In order to pursue this idea, Wilson, Ross, and Calvert (1974) studied adult subjects' judgments about a variety of terms (e.g., deaf, hearing impaired, deaf and dumb, partially hearling impaired). The 69 subjects, who did not have specialized knowledge of such terms, responded to the terms by means of a semantic differential-like instrument. Results showed the term hearing impaired evoked fewer negative associations than did the other terms. As with other studies of this type, however, the data do not show what subjects took the terms to mean. For instance, while professionals generally use hearing impaired as a general term for the deaf and the hard-of-hearing, subjects may have taken it to refer only to people with minor difficulty in hearing.

Orthopedic Handicaps

The literature on reactions to the orthopedically handicapped. like that on reactions to the educable mentally retarded, is vast. In contrast, however, it is an area of research showing, on the whole, agreement and consistency about basic facts and issues. Conflict and inconsistency emerge mainly when one turns from studies of reactions to orthopedic handicaps to studies of efforts to change reactions.

Studies of Children

Many studies of reactions to the physically handicapped have used a research paradigm developed by Richardson, Goodman, Hastorf, and Dornbusch (1961). In such studies, children are asked to rank a series of six pictures in order of preference. These drawings show a child with no physical handicaps; a child with crutches and a leg brace; a child in a wheelchair; a child whose left hand is missing; a child with a slight facial disfigurement; and an obese child.

Richardson et al. (1961) originally reported grea consistency in children's order of preference for the children in these pictures. Ten- and eleven-year-old children, handicapped and nonhandicapped, urban and rural, from different socioeconomic groups, in different interview settings, ranked the pictures in the order presented above, with the nonhandicapped child most preferred, the obese child least preferred. In responding to the task, boys emphasized functional, girls emphasized social aspects of handicaps, as reflected by rankings. (Girls least preferred the obese child; boys, the child missing a hand[illegible])

In a subsequent study, Goodman, Dornbusch, Richardson, and Hastorf (1963) argue that this consistent ordering, shown by adults as well as by children, reflects a cultural value. If so, they reasoned, subjects either exposed to different values or unable to learn such values would rank the pictures in a different order from the usual one. Consequently, the original study was replicated with low SES Italian and Jewish children, assumed to have been exposed to values different from the norm, and with mentally retarded and emotionally disturbed children, assumed to be unable to learn the mainstream values. As predicted, these new subjects, again ten- and eleven-year-olds, showed patterns different from that described above.

This paradigm has been used with various new variables added to the design. For instance, Richardson and Royce (1968) systematically varied handicap and skin color in the drawings, and presented these stimuli to lower income black, white, and Puerto Rican children and to upper income Jewish children. Subjects were 10-, 11-, and 12-year-olds. The rank order was not affected by skin color. Richardson (1969) reviews this area of research, and also discusses the effects of physical disability on the socialization process.

Matthews and Westie (1966), in a study concerned with methods for obtaining rankings, argue that the Richardson task "lacks subtlety" (p. 854). They administered such a task and a seven point social distance scale to high school students, and conclude that the scale reflects finer distinctions than does the picture task.

Richardson and his associates have also investigated reactions to the handicapped in relation to physical appearance and in relation to actual contact with the handicapped (attending a summer camp).

This research shows a positive relationship between physical attractiveness and social acceptance for 9- through 14-year-olds (Richardson, Ronald, & Kleck, 1974). Richardson, Ronald, and Kleck also report that in a summer camp with half handicapped, half nonhandicapped boys (8 through 13 years of age), handicapped children had lower social status than did nonhandicapped children, even after three weeks of contact.

Centers and Centers (1963) examined attitudes of children who did and did not have actual contact. They gave a questionnaire to 413 children in classes with an amputee child, 423 not in such classes. Results show greater rejection of the amputee children than of other children. The amputee children, more often than others, were seen as saddest, least liked, not nice looking, and least fun to play with. Centers and Centers argue, in discussing amputation, that "such a problem, unlike other kinds, may...represent a threat to the bodily integrity of the nonamputee and hence may evoke a stronger reaction" (p. 127). In other words, it may be important in studies of reactions to the orthopedically handicapped children to distinguish between reactions to the amputee and reactions to the orthopedically handicapped nonamputee.

A similar point might be made with regard to cerebral palsy. Anderson (1975) studied the integration of 99 handicapped children (with cerebral palsy, spina bifida, limb abnormalities, and heart defect) in ordinary classrooms in England, equivalent to grades kindergarten through six. These handicapped children were chosen as friends less often than were nonhandicapped children, according to Anderson; and children with cerebral palsy were chosen as friends even less often than were the other handicapped children. Force (1956) presents a similar picture.

With only one exception (Cruikshank, 1963), studies of children's reaction to the orthopedically handicapped show this group as rated negatively, ranked low, arousing emotional discomfort (Kleck, 1966), and otherwise as faring poorly in the social world of children, except when one studies very young nonhandicapped children.

Jones and Sisk (1967) presented 2- through 6-year-olds with drawings of child wearing leg braces, and a child not wearing leg braces. Responses to the two drawings did not differ except for 5-year-old subjects, who rejected the child with the leg braces more often than the child without braces, when asked, "Would you play with him (her)?" According to Jones and Sisk, children first consistently perceived the limitations of the disability at about age 4.

A study by Billings (1963) supports the picture of increase in unfavorable reactions during the elementary school years. Billings used two projective tests with children in first, third, and sixth grade. Subjects told a story about a picture and completed unfinished sentences about a physically handicapped child and about a nonhandicapped child. Attitudes toward the handicapped child were more negative than toward the nonhandicapped child, but favorable responses decreased and unfavorable responses increased with age. The change was most marked between first and third grade. Billings also reports that subjects judged to be most well-adjusted showed least favorable attitudes toward handicapped children.

There is some suggestion in the literature that this upswing in negative reactions is related to an increased ability to comprehend the nature of disabilities. Ronald (1977) reports that young children had difficulty in grasping the implications of disability. Young subjects might understand, for instance, that a girl in a wheelchair could not walk, yet would describe the girl as going upstairs. Ronald also claims that a major concern was the cause of disabilities, and that explanations of birth defects ("born that way") were greeted with incredulity.

Last, there are some reports of efforts to change attitudes. For instance, Rapier, Adelson, Carey, and Croke (1972) administered a rating scale about the physically handicapped to third-, fourth-, and fifth-graders before and after the integration of handicapped children into subjects' classes. After a year of mainstreaming, these subjects rated handicapped children as less weak, less in need of attention, and as more curious than they rated them on the pretest.

In evaluating the results of these studies, it is important to bear in mind the strong pressure children may feel to sound kind and considerate when asked how they perceive or feel about the orthopedically handicapped. Such bias is seldom mentioned explicitly in the literature. Willey and McCandless (1973) had fifth-graders fill out adjective checklists about orthopedically handicapped children attending a special class in the subjects' school. These subjects described the orthopedically handicapped children in "an unrealistic, Pollyannaish manner" (p. 287). It is unclear whether they did so only in response to characteristics of the testing situation, or whether they expressed such attitudes in general, or both. The pressure to sound kind should be kept in mind, for instance, in interpreting results like the following, from Rapier, Adelson, Carey and Croke's (1972) study of pre- and post-mainstreaming attitudes: "On the pretest, 75 percent or more of the children perceived handicapped children as being happy, smart, brave, and unselfish and as having many friends" (p. 221).

The Pollyannaish attitude of the culture in general and the particular pressure to appear kind in a testing situation should, in general, lead to results portraying children as more accepting of the orthopedically handicapped than they really are.

Studies of Adults

The classic study of adults' reactions to the orthopedically handicapped is Mussen and Barker's "Attitudes toward Cripples" (1944). Mussen and Barker had subjects fill out rating scales on 24 personality characteristics of a "crippled" and an "ideal" person. These ratings showed that subjects saw the orthopedically handicapped as different from the ideal in some favorable and some unfavorable ways. Mussen and Barker conclude that "the data give no support to the frequently stated opinion that cripples are, in general, regarded unfavorably" (p. 355). Mussen and Barker were, however, working with a highly educated group of subjects, Stanford undergraduates, during a time period when the nation as a whole was forced to deal with issues of physical disability. Franklin Roosevelt had had polio. World War II not only created war-injured people; it also generated such a need for workers that handicapped people were more economically needed than before or after the War. The "crippled" person Mussen and Barker's subjects had in mind, then, may have been a president or a war hero; or ratings may otherwise have been influenced by historical context.

With a few exceptions, like the Mussen and Barker study, research on adults' reactions to orthopedic handicaps presents a picture of negative responses, although, as discussed elsewhere, one must be careful to distinguish among negative evaluations of the handicapped, prejudicial attitudes, feelings of discomfort or fear, and many other kinds of responses that are easily lumped together as "negative" (see also McDaniel, 1969).

A few studies describe efforts to change adults' attitudes toward the orthopedically handicapped. It is noteworthy that such studies, as well as theoretical work on the topic (e.g., Hebb, 1946), assume that reactions to the orthopedically handicapped are negative and in need of change. These attitude change studies have used a variety of techniques and outcome measures. For instance, Daniels (1976) used a "covert reinforcement" technique (imagining scenes) for one group of subjects, hypnosis for another group, and no treatment for a control group, in attempting to modify attitudes toward physically disabled people. One dependent measure was the frequently ATDP (Yuker, Block & Younng, 1966), a measure of Attitudes Toward Disabled Persons, which is discussed in detail below. Generalization was measured by using a scale of opinions concerning mental illness. In this study, all three groups, that is, the control as well as treatment groups, showed improved attitudes. This outcome suggests the existence of a Hawthorne effect. The use of a no-treatment group with pre- and post-measures is rare in this area of research

Using the ATDP to obtain repeated measures does not control for Hawthorne effect or related kinds of subject reactivity. Consequently, the results of studies using pre- and post-tests without monitoring for Hawthorne effects should be interpreted cautiously.

Another attitude change study is reported by Clore and Jeffrey (1972). They assigned undergraduate subjects to three groups. One group role-played physical disability by riding around the college campus alone in a wheelchair for one hour. Each subject in the second group, which role-played vicariously, followed and observed at a distance a member of the first group. The members of the control group had neither experience. Subjects in the first two groups then wrote descriptions of their experiences. Outcome measures also included subjects' responses to a specific, real disabled person (a course instructor) and a disguised assessment given four months after the experiment, a telephone request. The role-playing and vicarious role-playing groups are reported to have shown more positive attitudes than did controls after the experiment.

Another area of interest with regard to adult reactions to the orthopedically handicapped is social class differences in attitudes. Since most work on social class difference is concerned with several areas of handicap, it is discussed in a later section of this review. One study exclusively about orthopedic handicaps reports no social class differences in the reactions of families with disabled children to their children's disabilities (Dow, 1965).

Last, there has been some research on the effects of orthopedic handicaps on face-to-face interaction, an area of research stimulated by Goffman's Stigma (1963). For example, Kleck, Ono, and Hastorf (1966) describe several studies in which subjects interacted with a confederate of the experimenters. The confederate presented himself as either physically handicapped or nonhandicapped. These studies show, in general, that the nonhandicapped subjects interacting with the confederate who appeared to be physically handicapped behaved differently from subjects to whom the confederate appeared to be nonhandicapped. Specifically, subjects interacting with the "handicapped" confederate terminated interaction sooner than did subjects interacting with the nonhandicapped confederate. They also tended to show less variability in behavior when the confederate was presented as nonhandicapped. Finally, the subjects interacting with the "handicapped" confederate "expressed opinions which were less representative of their actual beliefs" (p. 435) than those expressed by subjects interacting with the nonhandicapped confederate.

In an interesting variation of this Kleck et al. (1966) paradigm, Comer and Piliavin (1972) had physically handicapped subjects interact with a confederate who appeared to be either handicapped or nonhandicapped. The behavior of these handicapped subjects interacting with the nonhandicapped confederate is reported as somewhat similar to Kleck et al.'s (1966) description of nonhandicapped subjects interacting with the "handicapped" confederate. Specifically, Comer and Piliavin's subjects terminated interaction sooner with the nonhandicapped than with the handicapped confederate. They also behaved differently in other ways in the two situations.

Mental Retardation

The literature on nonhandicapped people's reactions to mental retardation and the mentally retarded is extensive, particularly within the fields of attitude research and sociometry. Gottlieb (1974) provides an excellent review of literature on attitudes toward retardation. The present review is considerable less detailed than is Gottlieb's.

Children's Attitudes

A starting point for research on the social position of the educable mentally retarded child is Johnson and Kirk's (1950) paper entitled "Are Mentally Retarded Children Segregated in Regular Grades?" In a sociometric study of 698 children in 25 classes, Johnson and Kirk found that the "mentally handicapped" as a group contained a higher proportion of "isolates" and "rejectees" and a smaller proportion of "stars" than did the nonhandicapped. For example, 46.15% of the mentally handicapped were rejectees, only 4.40% of the nonretarded children. In the same paper, Johnson and Kirk report similar results from a second study and conclude that although their mentally handicapped subjects were integrated in class, they were, nevertheless, socially segregated.

This picture of the unhappy social position of the educable mentally retarded child dominates a great deal of the subsequent literature, most of which has been concerned with identifying factors related to rejection, isolation, or other negative attitudes or behaviors toward educable mentally retarded children.

Rejection-Isolation. Although the literature, on the whole, gives an unhappy picture of the social position of the educable mentally retarded child (e.g., Gottlieb, 1974; Gottlieb & Davis, 1971; Willey & McCandless, 1973), this picture is not universal. For example, Renz and Simensen (1969), who had 57 grade-mates rate and describe 14 special-class educable mentally retarded children and 14 randomly selected nonretarded children, conclude that the educable mentally retarded children were not rejected more than were the nonretarded. This is, however, a highly atypical conclusion. The majority of studies aim at accounting for the negative social position of the educable mentally retarded child by focusing on the characteristics of his peers; on the characteristics of the retarded child; and on the contexts in which the retarded child and his peers interact.

With regard to characteristics of the nonretarded, investigators have studied the effects of sex, IQ, age, contact, SES (socioeconomic status), and other background variables. No clear picture emerges from this research. To give an example, whether and how males and females differ in attitudes toward the educable mentally retarded is not clear. Goodman, Gottlieb, and Harrison (1972) report in a study of 6- to 12-year-olds that males expressed more overt rejection of the educable mentally retarded than did females. Peterson (1974), on the other hand, reports no sex differences on two scales used to measure attitudes toward the educable mentally retarded in children in grades five to eight. Females are, however, quite consistently assumed to have or to express somewhat more positive attitudes than males.

Similarly, the amount of contact a nonretarded child has had with the retarded does not seem to show any consistent, simple relationship to his attitude. Peterson (1974), for example, reports that on one attitude scale, subjects who had had contact with the retarded showed a more favorable attitude to the retarded than did subjects who had not had such contact. On a second attitude scale, however, no such difference was evident.

Other studies have examined the characteristics of the educable mentally retarded children themselves. In such studies, three characteristics have been of particular interest: the physical appearance of the retarded child (Siperstein & Gottlieb, 1977), his apparent competence (Gottlieb, 1974), and his behavior (Gottlieb & Budoff, 1973). Such studies show, in general, that physical attractiveness or nonstigmatization and competence are associated with favorable attitudes.

As discussed later, physical attractiveness seems to be important not only in brief laboratory encounters and in the formation of initial impressions (as in Siperstein & Gottlieb, 1977), but also in long term, real world social acceptance. Kleck, Richardson and Ronald (1974) suggest that physically attractive children may exhibit positively valued behaviors, and unattractive children negatively valued behaviors. It may be the unattractive child's behavior rather than his physical appearance alone that determines his social acceptance or rejection.

Budoff (1977) also argues, in a different context, that at least in classroom situations, educable mentally retarded children behave differently from nonretarded children, and that nonretarded children respond to differences in behavior. A study by Gottlieb (1975) suggests that a retarded child's acting out behavior elicits negative reactions, although the relationship between being disliked and being verbally aggressive seems to be the same for the nonretarded as for the educable mentally retarded (Gottlieb & Budoff, 1973). Once again, however, the literature does not present a consistent picture. For instance, Gampel, Gottlieb, and Harrison (1974), who compared the classroom behavior of special-class educable mentally retarded children, integrated educable mentally retarded children, low IQ children, and nonretarded children, reported that the integrated educable mentally retarded children did not differ behaviorally from the low IQ and nonretarded children.

Many studies have examined the effects of different contexts on attitudes toward or social acceptance of the educable mentally retarded child. In particular, interest has centered on whether or not the retarded child is integrated or mainstreamed and on whether or not the child is explicitly labeled as mentally retarded. These studies overlap somewhat with studies which consider the nonretarded child's contact with the retarded as a background variable in predicting attitudes.

These studies of context generally do not support the simple hypothesis that integrated settings or moderate degrees of contact lead to favorable attitudes toward the retarded. For example, Goodman, Gottlieb and Harrison (1972) reported that in a nongraded elementary school where some educable mentally retarded children were integrated into regular classes and some were housed in a special class within the school, both groups of retarded children were rejected more than were nonretarded children. In that study, integrated retarded children were rejected more often than were segregated retarded children by nonretarded males, but not by nonretarded females.

Gottlieb and Budoff (1973) examined the social position of educable mentally retarded children in two different schools in the same rural town, one a traditional school, the other a school with no interior walls. Although the retarded children in the open school were more frequently known by peers than were the retarded children in the traditional school, they were not liked more often than were those in the traditional school. Meyerowitz (1967), who used "neighborhood sociograms" to measure the acceptance of educable mentally retarded children by peers, reports that educable mentally retarded subjects were isolates in their neighborhoods whether they attended integrated or special classes. Gottlieb and Davis (1971) had fifth- and sixth-graders select children with whom to play. Both integrated and segregated educable mentally retarded children were selected less often than were nonretarded children. Two groups of retarded children were selected equally infrequently. Other context variables examined in studies include reward acquisition, the forced or viluntary nature of interaction (Gottlieb & Strichart, 1971), and urban or suburban location (Bruininks, Rynders, & Gross, 1974).

Studies of the relationship between labeling and acceptance by peers (e.g., Jaffe, 1966; Severance & Gasstrom, 1977; Gottlieb, 1974, 1975) generally indicate that labeling per se does not have ill effects on attitudes toward the retarded, but that the label must be isolated from other factors, such as school placement, for its effects to be understood. MacMillan, Jones, and Aloia (1974) and Hewett (1977) review the literature on labeling and discuss issues related to the topic. One such issue is relevant to the present inquiry: the idea that a label may serve the positive function of providing an explanation for the behavior of a retarded child and hence may protect him from negative evaluations based on standards applied to nonretarded children (Gottlieb & Siperstein, 1975; Goodman, Gottlieb, & Harrison, 1972).

One study deals with preschool children's reactions to mentally retarded children. Colby (1944) reports an experiment in which six mentally retarded or borderline IQ (100-85) preschoolers with serious speech defects were placed in a group with six nonhandicapped children. "The method was essentially to place at successive but overlapping time intervals, specific types of handicapped children into an established normal group of equivalent age range" (p. 105). According to Colby, these handicapped children were easily assimilated into the group in free play situations. During complex tasks requiring interpersonal cooperation (e.g., building towers), however, the nonhandicapped children tried to divert the mentally retarded children to other activities. If the efforts to divert the children failed, they were excluded.

The Colby study raises some interesting questions about the preschoolers' understanding of their handicapped peers. Did the nonhandicapped children understand that these handicapped peers were, in fact, handicapped? Did they view the handicapped peers as a distinct group of children, different from the other children? Did they understand the handicapped children's behavior on the basis of some concepts unrelated to handicaps? The questions that arise from the Colby study resemble questions familiar from studies of young children's speech to adults, peers, and toddlers (e.g., Shatz & Gelman, 1973; Sachs & Devin, 1976). In these observations that young children behave in systematically different ways with different groups of interactants, the meaning of those differences in behavior is not revealed by the children's behavior itself. Does the difference in behavior, which might arise from an understanding of the needs of and abilities of the interactant, actually reflect such understanding? Or is it a response to the particular characteristics of immediate situations?

Children's Perceptions of Retarded Children

Several studies provide data on perceptions of special classes for the retarded. One of these (Clark, 1964) is particularly relevant to the present research because subjects were interviewed about perceptions of special class children whom they actually knew. Clark located fourth- and fifth-grade classrooms adjacent to a special class for educable mentally retarded children. These retarded children participated in the school's gym program and in other such nonacademic activities. Each of the nonretarded children, who were individually interviewed, was asked to tell about the one special class child he or she knew best. Few of the 134 children who complied with this request used derogatory terms to describe the retarded children. Such terms as "mental" and "retard" were, however, used more frequently by boys than by girls. The most common way of describing the retarded children was in terms of academic limitations (40 responses). Other descriptions were of sickness or mental illness (27 responses) and of deviant behavior (24 responses). Clark concludes that very few children spoke of the the retarded children in a derogatory way or indicated victimization of the retarded children. Clark notes, however, that only four children spontaneously questioned the special class placement of individual retarded children, and that no children wanted to be in the special class.

A study which provides a different perspective on the special class is reported by Gozali (1972), who questioned 56 adults in a work study program about their former special class placement. Only 15% of Gozali's subjects gave positive reports of that experience, while 85% perceived the special class as having been "degrading and useless."

Brightman (1977) gives an informal description of the results of talking with 50 8- to 12-year-old children about mental retardation. These discussions were held in small group meetings. According to Brightman, most of the children seemed to have only one person as a referent for the word retarded and seemed to base generalizations on that one person. These children seemed to see all retarded people as alike and gave mainly one-word, negative descriptions. They had low expectations about the achievement potential of the retarded and seemed to believe that the existence of retardation in a person implies the existence of other disabilities as well. Causal explanations were mostly physical. Finally, although the children's attitudes toward the retarded are reported as sympathetic or lenient, the children seemed to feel that the retarded fail at endeavors because of a lack of effort.

Studies of Adults

Studies of adults' attitudes toward and conceptions of the retarded often focus on differences among different groups of adults. For example, Mulhern and Bullard (1978) examined differences between professionals, who were sophisticated about mental retardation, and undergraduates, who were naive about retardation, in descriptions of how they would act in order to pass as retarded. Seitz and Geske (1977) compared how graduate students in a clinical practicum and mothers of nonretarded children judged retarded and nonretarded children. Such studies of differences among particular kinds of groups are not, on the whole, relevant to the present research.

Studies relevant here include Gottswald's (1970) report of a large scale survey about public knowledge of mental retardation and Wolfensberger and Kurtz's (1974) study of the use of labels by parents of retarded children. The main point to be drawn from these studies is that among adults, there is widespread ignorance about mental retardation. For example, only 45% of Gottwald's (1970) 1,515 subjects described mental retardation in terms of mental deficiency; 6.5% replied that mental retardation meant mental illness.

Wolfensberger and Kurtz (1974), in reporting the results of a study of 105 parents of retarded children, provide data to support the finding that adults sometimes confuse mental retardation with mental illness. That is, 30% of their subjects reported thinking the term psychotic an appropriate one for the retarded. As one might expect, these parents preferred highly euphemistic terms as descriptions of their own children (e.g., slow learner, speech handicapped). They also chose as appropriate terms for "any retarded person" labels which were simply inaccurate (e.g., minimal brain injury). From these studies, it is difficult to tell whether misunderstandings of terms and of conditions reflect superficial or deep-rooted aspects of concepts. That is, one does not know whether respondents firmly believe the mentally retarded to be mad, or whether respondents used the terms retardation and mental illness in inaccurate ways.

In summary, then, research about attitudes toward and conceptions of the mentally retarded has focused heavily on the favorability and unfavorability of children's attitudes toward the educable mentally retarded. Very little research is about ideas or beliefs. As Guskin says, "there has been too little attention paid to the content of attitudes toward the retarded as opposed to their direction. There has also been too little use of a flexible research methodology aimed at obtaining optimal information about attitudes using unstructured observations and interviews" (1977, p. 32). In particular, nothing seems to be known about when and how children first begin to notice and to understand retardation.

Psychological Disturbances

Studies of Children

Vacc (1968, 1972) reports two studies concerned with the social acceptance of emotionally disturbed children in regular classes. Vacc (1968) studied 16 emotionally disturbed children in special classes and 16 in regular classes. He gave sociometric questionnaires to all nondisturbed children in the regular classes containing the emotionally disturbed children, and found that the emotionally disturbed children were not so well accepted in the regular classes as were the nondisturbed children. Specifically, 16% of the nondisturbed children were "stars", while none of the emotionally disturbed children were "stars". The largest percentage of "rejectees" were in the emotionally disturbed group, and this group contained a higher percentage of "isolates" than did the nondisturbed group. In a later report, Vacc (1972) compared the social position of 16 emotionally disturbed children in regular classes with that of 16 emotionally disturbed children in special classes. There was no statistically significant difference between nondisturbed children's social selections of regular and special class emotionally disturbed children.

Novak (1974, 1975) reports on two studies in which nondisturbed fourth-, fifth-, and sixth-graders were presented with paragraphs describing six "imaginary peers." These six descriptions were of a normal, a depressed, a phobic, an immature, an aggressive, and a schizoid child, respectively. Subjects' responses were measured on a checklist of bipolar adjectives, a social distance scale, and a measure of perceived similarility to self.

In the first study (Novak, 1974), ratings of the normal imaginary peer were more positive on all measures than were ratings of the other imaginary peers. The aggressive character was seen as the least attractive, while the schizoid was seen as the most dissimilar to self. These ratings seemed not to be responses to the severity of disorders. Had that been the case, the schizoid would have received the most negative ratings.

In a second study, Novak (1975) used essentially the same procedure with fourth-, fifth-, and sixth-graders, but used descriptions labeled and not labeled with respect to emotional disturbance ("has a lot of problems and worries"). Novak also presented subjects with descriptions of same- and opposite-sex peers. Novak reports that same-sex peers were evaluated more positively than were opposite-sex peers. Aggressiveness and schizoid withdrawal were the most negatively rated disorders. Novak concludes that behaviors indicating inner discomfort drew more positive reactions than did behaviors affecting other people. The presence of the label drew negative reactions to opposite-sex peers, but not to same-sex peers. Furthermore, responses to phobic and to depressed characters were more positive when labeled than when not labeled. With regard to the sex of the imaginary peer, aggressive behavior was evaluated more negatively in female than in male characters.

Using a research paradigm somewhat similar to Novak's (1974, 1975), Marsden, Kalter, Plunkett and Barr-Grossman (1977) presented fourth- and sixth-graders with five vignettes describing a normal, an aggressive, a passive-aggressive, a school phobic, and a borderline child, respectively. Subjects were interviewed about reactions to the vignettes, and the interviews were coded for information about how liked and disliked the imaginary characters were and how disturbed or nondisturbed they were perceived to be. The aggressive character was least liked and most disliked. Subjects were able to distinguish among degrees of severity of disorder, according to this study, but liking and disliking were not related to the perceived degree of severity of disorders.

Maas, Marecek, and Travers (1978), using a now-familiar paradigm, presented second-, fourth-, and sixth-graders with descriptions of characters displaying "disordered" behavior:

antisocial, withdrawn, and self-punitive. Subjects responded to forced-choice and open-ended questions concerning each character. Subjects were also presented with lists of traits and asked which traits they would ascribe to the characters.

Although children of different ages used the same average number of words in responding, older children offered more causes for the disordered behavior than did younger children. Young children gave external causes, older children gave internal causes. For children of all ages, the self-punitive character was seldom seen as wanting to act thus, while over half the subjects described the antisocial, acting out character as wanting to act the way he did. "Children tended to believe that the antisocial character enjoyed the rewards of such beharior" (p. 152). The older children differentiated this antisocial character from the other characters more than did the younger children. In ascriptions of traits, the antisocial character emerged as undesirable, the withdrawn and self-punitive characters as somewhat desirable. Finally, "most children believed that all behavior could be changed" (p. 150).

In the published study most closely related to the research reported here, Coie and Pennington (1976) interviewed first-, fourth-, seventh-, and eleventh-graders about deviant behavior among peers, and also asked subjects to make judgments about two story characters. One such character represented loss of control and aggression, the other, paranoia. In this study, the the "7-year-olds had great difficulty in making deviance attributions" (p. 412). They "failed to think in terms of group norms" (p. 407). Fourth- and seventh-graders, in contrast, made normative comparisons, usually about concrete behavioral violations of rules. Eleventh-graders showed a more marked emphasis on social consensus and displayed a social definition of deviance.

In responding to the stories about disordered behavior, first-graders "invariably normalized the stories by translating them into events and characters they could readily understand" (p. 411), while older children clarified the irrationality and sought explanations.

In summary, research on children's attitudes toward and concepts of psychological disturbances shows rather consistently negative reactions to aggressive, antisocial, or extrapunitive behavior. As Coie and Pennington (1976) suggest, the concept of disordered behavior, deviance, or psychological disturbance seems to emerge rather late, "as a category of judgment only when other categories, such as morality and competency, are well established and when the child encounters events that seem not to fit these existing categories" (p. 407). In short, understanding behavior as voluntary behavior seems to precede understanding behavior as involuntary psychological disturbance.

Studies of Adults

Studies of adult conceptions of psychological disturbance and attitudes toward the mentally ill show some consistency in adult definitions and some markedly negative attitudes, but the populations represented in these studies and the types of disorders represented limit the generalizations one may draw.

Coie, Costanzo, and Cox (1975) examined the conceptions of mental illness held by physicians, social workers, public health nurses, clergy, and police. These are people in "gatekeeper" professions who are responsible for making referrals for psychiatric treatment and hospitalization. They reported that all groups showed a similar basic conception, using thought disorders, drug and alcohol abuse, and destructive tendencies to define disorders. The groups differed, however, in thresholds for perceiving behavior as disordered and in emphasis on overt behavior or internal disruption. For example, the clergy in this study were the most alert to signs of mental illness, while the police and social workers had a high threshold for perceiving behavior as a sign of mental illness. Police were particularly concerned with overt antisocial behavior, physicians and nurses with internal disorder.

Two other studies (Phillips, 1964; Yamamoto & Dizney, 1967) also suggest that social visibility is often a major criterion used in recognizing and evaluating mental illness.

Phillips (1964) interviewed 300 married women about the mentally ill and reported that rejection of the mentally ill was based on visible deviations rather than on psychiatric-like criteria. Phillips also investigated the question of whether the help source a mentally ill person seeks influences the extent to which he or she is rejected. He presented subjects with paragraphs containing identical descriptions of people. For some subjects, however, characters were described as seeking no help; for others, as seeking help from clergy, physicians, psychiatrists, or from mental hospitals.

Characters were increasingly rejected as the help source went from no help to help from mental hospitals, but help source was less important as a factor in rejection than was the behavior ascribed to the character.

Yamamoto and Dizney (1967) presented 180 undergraduates with paragraphs describing a paranoid schizophrenic, a depressed neurotic, a simple schizophrenic, a phobic compulsive, and a normal person. Subjects filled out questionnaires about the paragraphs. The questionnaires were designed to assess social tolerance. Results show that subjects' tolerance was based on social visibility rather than on psychiatric severity.

Two studies illustrate extreme negative values placed on emotional disturbance among some adults.

Vacc and Kirst (1977) gave questionnaires to regular classroom teachers about attitudes toward the possibility of integrating emotionally disturbed children into regular classes. Overall, the teachers did not favor such integration. In response to the question, "Do you find the behavior of emotionally disturbed children disgusing?", 39% of the 102 teachers replied yes, 54% no, while 7% gave no answer.

Lamy (1966) presented undergraduate subjects with a forced-choice task in which 30 situations were described. The subject chose between "the ex-convict" and the "ex-mental patient" as a response to each situation (e.g., "A wife can feel more confident of the family future if her husband is..."). Subjects saw the role of ex-mental patient as much more negative than that of ex-convict. For instance, a "very solicitous mother" was more likely to trust her children to an ex-convict than to an ex-mental patient. All the suggested treatments or remedies were seen as more likely to work for the ex-convict than for the ex-mental patient.

It should be noted that some of these studies focus on extreme disorders, especially disorders at least potentially involving psychiatric hospitalization. The literature does not present a clear picture of conceptions of and attitudes toward the actual range of psychological disturbance. Clearly, it would be unwise to assume that adults who mistrust ex-mental patients actually shun all neurotics, or would react negatively if they knew reasons for hospitalization, and so forth. Similarly, teachers who report finding emotionally disturbed children "disgusting" may well not feel disgusted by, say, children with mild cases of school phobia. In short, these and other limitations of the research methods used in studies in this area must be considered before uncritically accepting these findings.

A study by Cumming and Cumming (1957), in fact, suggests that the issue of hospitalization may be a very important one in determining responses toward people with deviant behavior. Cumming and Cumming ran a six-month program intended to change the attitudes of people in a Canadian town toward mental illness. While the intervention was ineffective in promoting positive attitudes, and, indeed, generated a good deal of anxiety and hostility about the program, Cumming and Cumming's description of the experience of running this program is an interesting account of the role conceptions of menal illness play in social systems.

This account shows that the systems subjects used for understanding deviant behavior were not psychiatric systems, but rather, the same systems used in understanding and explaining everyday behavior. The subjects seemed to apply these everyday systems to deviant behavior up to the point at which the deviant person was institutionalized. In some ways, then, these adult subjects seemed to "normalize" deviant behavior when possible. For example, the adult subjects felt that one who had had a frightening experience with an elevator might well become terrified of elevators. Thus, the causal framework for understanding what psychiatrists call *phobia* were not pathology-specific systems, at least for many kinds of behavior.

Selby, Calhoun, and Johnson (1977) report on an exploratory study of the perceived causes of psychological proglems. These investigators asked 394 undergraduates to rate 52 items with respect to the extent to which each contributes to mental illness. A factor analysis yielded the following five factors: personal characteristics, organic causes, natural disasters, marital crises, and childhood family constellations. It is interesting to note the way in which this image of the causes of psychological disturbance might resemble and differ from the causal picture presented by psychologists and psychiatrists. For example, "personal characteristics" would seem to be the layman's counterpart to trait theories of personality and pathology. Organic causes clearly are a part of the professional's system of causal explanation. One wonders, however, whether professionals and laymen differ in the particular organic causes named. That is, while the organically-oriented psychiatrists might refer to chemical imbalances in the brain, the layman might refer to bumps on the head. Both, however, would be subsumed under the "organic causes" factor. Natural disasters, marital crises, and childhood family constellations all are implicated in the causation of psychological disturbances in some professionals' systems for explaining pathology. For the professional, each of these three factors tends to suggest different implications about severity. For instance, natural disasters might be implicated in triggering temporary, acute episodes of difficulty, whereas childhood family constellations are more apt to be viewed as the cause of chronic character problems. Does the layman share this view?

In short, while the factor analysis succeeds in reducing data on causal explanations to a few meaningful categories, it does not succeed in presenting an image of similarities and differences between professional and lay systems of explanation, nor does it show whether or not the subjects' systems were pathology-specific systems or general systems for explaining behavior, deviant and nondeviant.

Sociologists are concerned with the issue of acceptance and rejection of the mentally ill in a manner similar to concern over labelling in the study of attitudes toward the educable mentally retarded. This controversy about attitudes toward the mentally ill has three major issues: whether or not labels like "mentally ill" are associated with rejection; whether or not there are social class differences in tolerance for mental illness, and whether or not the general public has become more accepting or tolerant of the mentally ill.

The labeling controversy in the area of attitudes toward mental illness is complicated partly because it is confounded with the controversy over whether or not mental illness is merely a myth, and with whether the medical model is appropriate for understanding and treating psychological disturbances. Professional opinions are so diverse that there is essentially no standard to which one may compare public attitudes. If subjects treat deviant behavior as problems in living, as organic syndromes, or as virtually anything else, it is fairly easy to find equivalent professional interpretations. The extent to which these controversies within the professional domain complicate the problems of studying public attitudes is highlighted if one uses some other handicap as a basis of contrast. For instance, the study of attitudes toward blindness and the blind is comparatively straightforward because (1) no one argues that blindness is a myth created by professionals, and (2) the medical model is clearly appropriate for understanding the causes of blindness and for treating the organic problems related to blindness.

The extent to which the public has been sold on the medical model of psychological disturbances has been of some interest to researchers. In a literature review and discussion related to these issues, Sarbin and Mancuso (1970) conclude that the mental health movement's "moral crusade" to convince the public that "mental illness is just like any other illness" (p. 159) has failed.

According to Sarbin and Mancuso, the public does not readily label behavior as indicative of mental illness, but does react negatively to people labeled as mentally ill. "In effect, the public tends to tolerate and to accomodate to overt conduct that professionals label as mental illness, but tends to see persons who are branded by the label mentally ill as stigmatized" (p. 160).

Dohrenwald and Chin-Shong (1967), in reporting a study of community leaders and of an ethnic cross-section of adults in New York City, argue that social classes differ in definitions of emotional illness. In particular, working class people are said to use a restricted definition: mental illness is defined as aggressive, antisocial behavior. In contrast, researchers and psychiatrists use a broad definition characteristic of people from affluent backgrounds. Consequently, researchers and psychiatrists may think that working-class subjects tolerate or accept mental illness, when in fact, the subjects may not even define dertain disturbances as evidence of mental illness. Dohrenwald and Chin-Shong's study shows that the image of working-class subjects simply as more tolerant of mental illness than affluent subjects is an oversimplification. Actually, according to Dohrenwald and Chin-Shong, when the subjects themselves defined a behavior pattern as seriously deviant, they appeared to be very intolerant.

This interpretation of the results is not the only possible one. One might argue, for instance, that it is erroneous to treat definitions of mental illness and tolerance of mental illness as separable. One form of tolerance or acceptance may itself be the use of a restricted definition.

Another issue in the field of attitudes toward mental illness is the issue of whether or not there has been a change in public attitudes and definitions in recent years. Dohrenwald and Chin-Shong (1967) argue that there has been an increase in recent years in the tendency to label behavior as evidence of mental illness. With regard to whether attitudes toward mental illness have changed over the years, Crocetti and Lemkau (1965), in a letter to the American Sociological Review, report a comparison of contemporary data on social distance attitudes toward the mentally ill with 1928 data on social distance attitudes of native-born Americans toward blacks and toward German Jews. They reported perceived social distance from the mentally ill is less now than was the perceived social distance from blacks and German Jews in 1928. These investigators interpret this result to mean that the mentally ill are not rejected now; that social science's perception of rejection is invalid (p. 577). It is, however, difficult to draw any conclusion from the results they present. Attitudes toward the mentally ill are not compared with previous attitudes toward the mentally ill. Perhaps rejection of the mentally ill is slight only relative to extreme rejection of blacks and German Jews in 1928. One simply cannot tell.

In summary, research about conceptions of psychological disturbance and attitudes toward the psychologically disturbed is difficult to conduct and to interpret partly because there is no generally accepted definition of psychological disturbance equivalent to definitions of other kinds of handicaps. Problems in this area of research stem partly from the nature of the content: attitude researchers are in a difficult position when they disagree among themselves about the referent of the attitude. The problems are not limited to problems involved in the inherent complexity of concepts of psychological disturbance. Studies often fail to make sharp distinctions between subjects' conceptions of the mentally ill and their conceptions of people whom psychiatrists might call mentally ill. Furthermore, the major issue of tolerance or acceptance is often beclouded by issues of definition or recognition of mental illness.

Speech Disturbances

Several investigators have studied children's reactions to peers with speech disturbances. Speech handicaps are not a primary focus of this project. These studies are reviewed, nevertheless, mainly because two (Perrin, 1954; Marge, 1966) are similar in aim and method to many of the studies reviewed previously. A third, however (Freeman & Sonnega, 1956) takes an unusually imaginative, thoughtful approach to this kind of research, and, consequently, provides a standard of comparison for other studies.

In the first of these studies, Perrin (1954) administered a sociometric questionnaire to 445 children in grades one through six. These children were in classes with a total of 37 "speech defective" children, with at least one such child per class. Reported results are that the speech handicapped group contained a higher proportion of "isolates" and "rejectees" than did the non-handicapped group. The speech handicapped group contained no "stars".

Marge (1966) studied the special position of 36 third-graders with "moderate to severe" speech disorders by administering a sociometric instrument to 197 children with whom the speech handicapped children attended school. The teachers of these children identified only about half of the "speech handicapped" group as having speech disturbances, a fact which may be interpreted either to mean that the teachers were poor identifiers or that some of these children were not speech handicapped. According to Marge, a few of the speech handicapped children emerged as "stars", but a smaller proportion than was the case for the nonhandicapped children. There was a "trend" for speech handicapped children to have a lower "social status" than other children.

Freeman and Sonnega (1956) approached the problem of investigating how peers evaluate children in speech correction classes in a less global way than did Perrin or Marge. Specifically, in studying peer evaluation of 26 third- and fourth-graders, Freeman and Sonnega presented the 133 peers with the chance to distinguish between evaluations of speech ability and other evaluations. Each peer subject had three tasks. He or she was asked (1) to choose five peers who talk well as potential participants in a communication game with a teacher, (2) to name the children with whom he or she was most friendly, and (3) to identify children according to possession of various traits, such as being a leader, being good-looking, and so on.

Children in the speech correction class received notably low scores on the first task, which involved talking ability, but no differences emerged on the other tasks. That is, peers seemed aware that the children in speech correction classes indeed had speech problems; otherwise, however, these children seemed to be as socially acceptable as were other children.

Presenting children with the opportunity to make differentiated responses about different aspects of others' ability revealed a picture of apparently accurate evaluation without generalized negative reaction. Had a global measure been used in which subjects were forced to be either accepting or rejecting in general, the overall picture of results might have been different from what it is. That is, negative ratings on items implicitly or explicitly about talking might have resulted in an average picture of negative evaluation.

In general, then, the Freeman and Sonnega study makes a point potentially applicable to many of the studies of attitudes toward the handicapped included in this review: subjects' realistic descriptions of the limitations inherent in a handicap, if averaged in with other responses, may result in a global rating indicative of negative attitudes. In evaluating the results of previous research, it is important to ask whether results might have been distorted by such averaging of matter-of-fact descriptions with other responses. In formulating new research strategies, including the strategy used in the research reported here, it is important to distinguish between matter-of-fact descriptions of limitations and problems inherent in handicaps and other kinds of responses.

General Studies

This section deals with studies of reactions toward handicapped people in general, particularly studies in which reactions toward people with different kinds of handicaps were examined concurrently.

Studies of Children

Soldwedel and Terril (1957) report a study of one seventh- and eigth-grade class composed of 22 nonhandicapped and 10 handicapped children (4 visually handicapped children, 1 deaf child, 5 children with other handicaps, including heart defects and cerebral palsy). All children were given a sociometric questionnaire. The questionnaire asked about children with whom subjects would like to play, near whom they would like to sit, whom they would like to take home to a party, and so forth. The children's parents were given a similar questionnaire in which they were asked to predict their children's choices and to express preferences about their children's choices.

For the children's responses there were no statistically significant relationships between choices and handicaps. Parents of nonhandicapped children also made choices independent of handicaps. Parents of handicapped children, however, preferred to have their children select other handicapped children rather than nonhandicapped children as friends. In evaluating these results, one must note that the study was conducted at a university-affiliated mainstreamed school. One has the impression that this was an exceptionally excellent school. Results, then, may well not be typical of schools in general.

In evaluating the Boston Children's Museum's exhibit on handicaps, Melton (1976) administered an adjective checklist to children at the museum before and after experience with the exhibit. There was no statistically significant difference between pre- and post-test scores. On both occasions, handicapped children were perceived as sadder, slower, lonelier, weaker, less healthy, and more tired than nonhandicapped children. Melton also provides some anecdotal description of responses to the exhibit, which included wheelchairs, Braille typewriters, and other materials for active use by the visiting children. According to Melton, preschoolers seemed not to connect these materials with disabilities.

Simpson, Parrish, and Cook (1976) report on another attitude change study with child subjects. These investigators studied the effects of a curriculum about handicaps in changing the attitudes of groups of second-, third- and fifth-graders. The outcome measure, administered before and after the intervention, was the ATDP, described in detail below. Simpson, Parrish, and Cook report statistically significant treatment effects for the younger but not for the older group. Females seemed more amenable to change in attitude than did males.

Two summaries of the literature on children's reactions to the handicapped should be noted. Levitt and Cohn (1976) conclude, from a review, that awareness of handicaps begins at about age 4; that, in general, the attitudes of nonhandicapped children toward handicapped children are negative; that younger children are less negative in attitude than are older children; and that contact does not always reduce negative attitudes. Peterson (1978) reviews the literature on attitudes and on behavioral interactions between the handicapped and nonhandicapped. Peterson reaches basically the same conclusions as those of Levitt and Cohn with regard to attitudes. Peterson's review of the literature on interactions of young handicapped and nonhandicapped children shows, on the whole, that there is little exclusion and rejection of handicapped children by nonhandicapped children. On the other hand, when nonhandicapped children have the opportunity to select other children as sole playmates, they select nonhandicapped children. Peterson also suggests that nonhandicapped children seek out other nonhandicapped children for complex activities.

Studies of Adults

Donaldson and Martinson (1977), using the ATDP as a pre-test and post-test, randomly assigned adult subjects to three treatment groups and a control group. The basic treatment was listening to a panel of handicapped people (with cerebral palsy, blindness, paraplegia, quadriplegia) discuss their handicaps. One treatment group was present during the live presentations; another saw videotapes of it; another heard audiotapes. No statistically significant change in ATDP scores was observed for the audiotaped presentation, but improvement was observed for both videotaped and live presentations. No sex differences were found in this study.

Chesler (1965), in a study that exemplifies the prejudice interpretation of attitudes toward the handicapped, hypothesized that people showing high ethnocentrism, that is, people who reject outgroups, also reject the handicapped. Chesler administered the ATDP and an ethnocentrism measure to high school and college students and reported results supporting the hypothesis.

Finally, Yuker, Block, and Younng (1966) and Yuker (n.d.) describe and summarize many studies using the ATDP as a measure of attitudes toward the handicapped. Because the ATDP is the single most widely used measure of attitudes toward handicapped people, it is described in some detail.

The ATDP, according to Yuker et al. (1966), "was designed to provide an adequate positive-negative scaled measure of attitudes toward the disabled; an instrument that could be used both with the disabled and the non-disabled" (p. 17). The instrument was designed to measure attitudes toward "disabled persons in general" (p. 18), not attitudes toward any specific group or groups. The test itself, which takes about 15 minutes to administer, consists of a series of statements about "disabled" or "non-disabled" people (e.g., "Most people feel uncomfortable when they associate with disabled people." "Most disabled persons get married and have children.") (The ATDP is available in several forms, which are not discussed separately here.) The subject marks each statement on a Likert-type scale, ranging from "I agree very much" to "I disagree very much."

The positive or negative direction of attitudes measured by the ATDP is defined in a highly specific way: A high score on the ATDP reflects a perception of disabled people as like other people, which a low score indicates a perception of disabled people as different from others (Yuker et al., p. 25).

Yuker et al. emphasize that ATDP scores indicate a perception of handicapped people as different, a perception which they interpret as meaning "inferior" or "disadvantaged." Another frequent interpretation of the meaning of ATDP scores is a prejudice interpretation: High scores are often interpreted as indicating a prejudiced attitude toward handicapped people.

Yuker et al. (1966) report and summarize many studies in which the ATDP has been used. For instance, ATDP scores have been correlated with IQ scores, rural and urban residence, contact with handicapped people, measures of ethnic prejudice, and scores from numerous other tests. The main findings of interest here are: First, although there is some inconsistency in results, there is probably little relationship between age and attitudes toward the disabled as measured by the ATDP. Second, females fairly consistently score somewhat higher on the ATDP than do males.

This measure is of interest here mainly because it serves as a clear basis of contrast for the instruments used in the present study. Specifically, the ATDP is rapid and inexpensive to administer. It yields a single score ranging from positive to negative. Every subject faced with the ATDP receives the same stimulus as every other subject; when different forms have been developed, great care has been taken to guarantee equivalence. The test has been used with vast numbers of subjects, and norms are available for many groups of people. Finally, the only information the ATDP yields is a score reflecting a subject's scaling of "disabled" people as different from or like other people in a variety of ways. As will be described below, we chose to use radically different instrumentation to generate richer data relating to nonhandicapped persons' perceptions and understanding of the handicapped.

Comparative Studies

Included in this section are studies intended primarily to compare attitudes toward people with different kinds of handicaps, plus a few studies in which such comparison was only a minor part of the research.

Studies of Children

In one of the few attempts to investigate preschoolers' reactions to the handicapped, Gerber (1977) studied a group of 12 children (9 nonhandicapped, 3 handicapped) in an integrated preschool. These children ranged in age from 3 1/2 to 5 years. Of the three handicapped children, one was an orthopedically handicapped child who wore a body brace; another was autistic-like; a third, who had cerebral palsy, is described as awkward and passive.

The nonhandicapped children were shown pictures of their classmates, were asked to talk about them, and were given a sociometric task ("Who will you invite to your birthday party?") In general, the nonhandicapped children were aware of the handicapping conditions. The autistic-like child was least accepted, followed by the orthopedically handicapped child. The child with cerebral palsy received no negative evaluations from peers.

This picture of low acceptance of aberrant behavior and higher acceptance of orthopedic disability, including cerebral palsy, contrasts with results presented in several other reports. These results do not contradict Gerber's. Gerber's data on 9 nonhandicapped children do not provide grounds for generalization to all preschoolers and Gerber makes no such generalization.

Force (1956) gave a sociometric test about choices of friends, playmates, and workmates to 361 nonhandicapped children in grades one through six who attended classes with 63 handicapped children. Seven of the handicapped children have visual handicaps, six had hearing impairments, while the remainder had other kinds of physical handicaps. Results show that of the handicapped children, those with heart conditions and other congenital abnormalities were most accepted as friends. Those with cerebral palsy were accepted markedly less than all others. Overall, the handicapped children were not well-accepted. Force reports than an examination of mutual choice patterns shows the presence of distinct handicapped and nonhandicapped subgroups.

Engel (1978), in an evaluation of the Boston Children's Museum's curriculum about handicaps ("What If You Couldn't?") provides anecdotal descriptions of children's reactions to curriculum units. The primary-school children found physical handicaps easier to define and to understand than other handicaps. Only the unit on physical disabilities initially produced "'ugh' reactions." Deafness, in contrast, seemed to be a relatively easy area for both children and teachers to deal with. Children seemed to have difficulty in grasping the idea of learning disabilities and to confuse learning disabilities with mental retardation.

The idea that children find sensory and physical handicaps easier to understand than mental or emotional disabilities also appears in Storey's (1977) formative evaluation for Feeling Free, a television series intended to help nonhandicapped children understand handicaps. Storey studied 100 children ranging from 6 through 12 years of age (mainly 8- through 10-year-olds) from a variety of ethnic and socioeconomic backgrounds. Two measures were used: a questionnaire about familiarity with handicaps and handicapped people, and structured group discussions about Feeling Free segments. On the questionnaire, 85% of the children adequately defined "blind"; 79%, "deaf"; 65%, "crippled"; but "there was no consistency in definitions offered for the term 'retarded'" (p. 30).

Two studies focus specifically on contrasts between children's attitudes toward the retarded and toward the orthopedically handicapped.

First, Willey and McCandless (1973), in a study mentioned previously, report that fifth-graders showed negative stereotypes of educable mentally retarded children, but characterized orthopedically handicapped children in an "unrealistic, Pollyanna-ish manner" (p. 287).

Second, Gottlieb and Gottlieb (1977) studied 56 junior high school children's attitudes toward a crippled child and toward a retarded child described in two brief paragraphs. The subjects' responses to the descriptions were measured on an adjective checklist and on a social distance scale, the former intended as a measure of stereotypic attitudes, the latter intended as a measure of "behavioral intentions." Results show that stereotypic attitudes toward the crippled child were more favorable than those toward the retarded child, but social distance scale ratings did not differ.

Jones, Gottfried, and Owens (1966) report a study of 186 high school subjects who had actually known an "exceptional person." These subjects responded to questionnaires about "average" people and people with many kinds of exceptionality: the blind, deaf, hard of hearing, partially sighted, delinquent, chronically ill, emotionally disturbed, speech handicapped, mentally retarded, gifted, and crippled. In the questionnaires, these labels were paired with one another. The subject's task was to select one of a pair of labels as his or her response to a statement (e.g., "This person is most in need of help"). In this study, the "average" and the "gifted" were most acceptable. In most situations, the mentally reatarded were least acceptable. In general, mild handicaps (e.g., partial sight, partial hearing loss) were more acceptable than severe handicaps.

Studies of Adults

Efforts to assess differences in reactions to people with different kinds of handicaps have produced a variety of experimental tasks. With regard to these tasks, a study by Alexanian (1967) should be noted. In assessing "public" and "private" attitudes of high school and college age subjects toward stutterers, the cerebral palsied, and the blind, Alexanian used two measures, responses to direct questions and responses to projective tests. The former was intended to measure public attitudes; the latter, private attitudes.

In this study, people's attitudes as revealed in response to direct questions differed from those revealed in response to the projectives with regard to blindness and to cerebral palsy. Public attitudes were more favorable than were private attitudes. With regard to stutterers, however, public and private attitudes did not differ. These results, in part, support the common assumption that subjects often present themselves as more accepting of the handicapped than they might appear to be in other situations. Alexanian's results also suggest that the difference between public and private attitudes differs depending upon the kind of handicap one studies. Finally, one may also wonder whether to interpret this study as exemplifying the general point that results often differ as a function of instrument. Perhaps results would have shown differences between two measures of public attitudes or between two measures of private attitudes as well.

Vander Kolk (1976) reports a similar discrepancy between results obtained from direct and indirect measures. Vander Kolk used the "Psychological Stress Evaluator" which measures stress by charting voice modulation. Subjects "verbalized" about eleven "different" populations: the black, the blind, the cerebral palsied, diabetics, ex-offenders, homosexuals, the mentally retarded, one arm amputees, one leg amputees, paraplegics, and psychotics. Differences are noted between verbal self-reports of stress and voice modulation measures. With voice modulation as a measure of stress, there was great individual variation among subjects in which kind of difference elicited the most stress. Overall, however, cerebral palsy elicited the most stress, with blindness second.

Farina, Thaw, Felner, and Hust (1976) introduced 153 undergraduate subjects to confederates presented as "normal," as mentally retarded, or as mentally ill.

The subjects' task was to administer electric shocks to the confederate in order to teach him to press certain buttons. Four subjects refused to administer the shocks. Subjects gave shorter and less intense shocks when the confederates were presented as mentally retarded than when they were presented as "normal" or as mentally retarded, or as mentally ill.

In two studies inspired by Goffman's Stigma (1963), Kleck, Buck, Goller, London, Pfeiffer, and Vokcevic (1968) examined the effects of different stigmatizing conditions on "the use of personal space." Male undergraduate subjects were given a figure placement task and two attitude tests (the ATDP and a scale of opinions about cosmetic conditions). In the figure placement task, subjects placed figures representing the self and other on a rectangle. The results were as follows: The distance between the "self" and the "other" increased as the "other" was a liked professor, a friend, a blind person, a black, a stranger, an amputee, an epileptic, a mental patient, and a disliked professor. There was, however, no difference in distance between self and friend and between self and blind person.

One wonders, of course, why the two professor "others" occupy the extreme positions. A disliked professor does not seem intuitively to represent extreme stigmatization. It is also unclear why the liked professor should be closer to "self" than is a "friend." Indeed, as one considers this study, it is unclear what the task measures, particularly since there was no relationship between the figure placement task results and the attitude measure results.

In the second study, Kleck et al. measured actual physical distance the subject placed between himself and the other. The investigators presented 25 male undergraduate subjects with a confederate. A subject was told either that the confederate had epilepsy or that he had no special medical condition. Results showed that the subjects placed their chairs further away from the confederate when he was labeled as epileptic than when he was not. Degree of eye contact did not differ for the two conditions. This second study was intended to show that the figure placement task may reflect actual physical placement preferences.

Wilson and Alcorn (1969), in an effort to change attitudes toward the handicapped, had college students spend eight hours simulating blindness, deafness, the loss of a hand, or the loss of a leg. ATDP change scores did not differ between experimental groups, who simulated some condition, and a no-treatment control group of subjects. Experimental group subjects, however, wrote narrative accounts of their experiences. Simulating different kinds of handicaps seemed to evoke distinctively different reactions. Subjects simulating blindness described frustration in many activities, fear, and feelings of helplessness. Those simulating deafness were less restricted in activity than were those simulating blindness, but they reported considerable depression. Those simulating the loss of a hand focused on social reactions rather than on the intrapsychic reactions reported by other subjects.

Parish, Eads, Reese, and Piscitello (1977) had 45 future teachers evaluate the labels "learning disabled," "educable mentally retarded," and "physically handicapped." All labels were evaluated negatively, but the first two were evaluated even more negatively than the third. As is the case with other studies, one again faces the question of whether physical handicaps actually elicited more positive, or at least fewer negative, responses than did the other handicaps, or whether the subjects presented themselves as responding kindly to the physically handicapped.

Dion and Berscheid (1972) report a study relevant to the comparison of attitudes toward people with different kinds of handicaps, although the study is not directly about this topic. In the study, entitled "What is Beautiful is Good," 60 undergraduates looked at pictures of very attractive, moderately attractive, and unattractive people. There was high agreement about how attractive the people were. The attractive people were perceived as more socially desirable than were the unattractive people. The attractive people were expected to have better jobs and happier marriages than were the unattractive people, although they were not expected to be better parents. These results suggest that reactions to different kinds of handicaps are influenced, at least in part, by the extent to which a handicap affects attractiveness, as our culture defines it. A similar suggestion is found in the work concerning orthopedic handicaps reviewed previously.

Finally, Yuker (n.d.) summarizes research on attitudes of the general public toward handicapped people. Yuker concludes that "in response to direct questions, more than 50% of the people in the United States express slightly positive attitudes toward disabled people and indicate that they have sympathetic feelings for them"(p. 94).

In general, according to Yuker, attitudes toward people with sensory handicaps are more favorable than attitudes toward people with physical handicaps. In particular, cerebral palsy and other handicaps involving uncoordinated behavior, and handicaps involving facial differences, evoke negative reactions. Yuker concludes, then, that social acceptance is related to the visibility of a handicap: the more visible the handicap, the more likely to evoke negative attitudes.

Three main points emerge from this review. First, once again, a picture of frequent negative reactions to the handicapped emerges.

Second, contrary to assumptions sometimes found in the literature (e.g., Braverman, 1951), blindness appears not to be perceived as the worst possible handicap. Subjects seem not to respond to blind people as the most stigmatized group of handicapped people. In fact, three studies (Force, 1956; Anderson, 1975; VanderKolk, 1976) suggest that if one were to identify a group as evoking the most negative reactions, that group would be the cerebral palsied.

It is, however, important in making such a suggestion to bear in mind Lukoff and Whiteman's (1963) theoretically clear but practically fuzzy distinction between attitudes toward handicapping conditions and toward handicapped people. It is also important to note that the term negative means different things in different studies. For instance, checking adjectives like "sad," placing cardboard figures at a distance from one another, changing voice modulations, and exhibiting a wide variety of other behaviors are all lumped together as indications of "negative" reactions. In reality, there are great differences among reactions of condescension, of fear, of avoidance, and so forth. Research has basically nothing to report about differences among these different kinds of negative reactions.

Third, it is by no means clear that one best-to-worst continuum actually underlies evaluations either of handicaps or of handicapped people. Indeed, it seems probable that how groups of people or conditions are ranked depends heavily upon the context of ranking, that is, upon the nature of the experimental task. Subjects may well use different sets of criteria when ranking according to similarity to self; best handicap to have oneself; best person to have as a friend; and so forth.

Popular Beliefs

Although there have been many studies of attitudes toward the handicapped, these studies, as Guskin (1977) comments, concentrate mainly on positive or negative evaluations of the handicapped rather than on the content of beliefs about the handicapped. A thorough treatment of the social history of handicaps is far beyond the scope of the present literature review. This review would, however, be incomplete without some mention, however brief, of themes about the handicapped evident in history and in popular thought of the present time. Some such themes are evident in the history of the treatment of handicapped people, others evident in present portrayals of the handicapped on television, others evident in anecdotal reports by social science researchers and by handicapped people themselves. The point of this review is simply to note the overt and covert presence of these themes in the culture in which the subjects for the present study live.

Lack of Differentiation

While the bind, deaf, and visibly physically handicapped seem historically to have been recognized as distinct classes of people, the classification of people with nonvisible handicaps into separate groups is a comparatively recent event. Although mental retardation has long been recognized as existing, "the entire early history of the subject is clouded by the lack of discrimination between congenital physical deformity, epilepsy, psychotic states, deaf-mutism, and mental incapacity" (Capobianceo, 1958, p. 232).

The grouping together of disabilities now seen by professionals as distinct is evident, for instance, in the blurring of the distinction between mental retardation and mental illness in British law until the passage of the 1886 Idiots Act (Pritchard, 1963, p. 135). Although at least by the sixteenth century, cretinism had been described and recognized as a distinct entity, mental retardation in general ("idiocy") was otherwise thought of as a single condition until about the mid-nineteenth century (Kanner, 1964, p. 87). During the second half of the nineteenth century, Ireland and Down began the process of describing etiological grouping of retarded people (Kanner, 1964). That is, during the nineteenth century, distinctions were made among types of mental retardation and between mental retardation and other disorders.

The lack of differentiation in concepts of handicaps is neither limited to a confounding of types of mental retardation nor to a confounding of mental retardation with other kinds of disabilities.

Furthermore, confusion about groups of disabilities is not limited to past times. Gottwald (1970) and Wolfensberger and Kurtz (1974) report confusion about the distinction between mental retardation and mental illness in present-day adults. Best (1943), in discussing popular beliefs about deafness, mentions confusions of deafness with mental deficiency, and confusions between the problems of the blind and of the deaf. Hence Goodman (1970), in offering advice about how to behave when meeting a blind person, states explicitly "Don't raise your voice on the assumption that he is deaf" (p. 187). It is tempting to interpret such an admonition as a response simply to people's tendency to shout as a futile way of surmounting the communication difficulty imposed by the absence of eye contact and other such cues in face-to-face interaction with the blind. Apparently, however, some genuine confusion exists. Bragg, who is deaf, writes that "people still tend to ask me 'Do you read Braille?' Blame it on Helen Keller. We must separate blindness and deafness as two distinct handicaps" (1977, p. 109). Bragg also protests public misconceptions of the deaf as having "borderline mentalities."

In short, the recognition of distinct etiological groupings within areas of disability is a relatively recent historical event. Confusions among areas of disability and the confounding of one area of disability with the coping mechanisms for another have also been noted.

Beliefs About Affective States and Experience

Monbeck (1973) discusses in detail popular assumptions that the blind are unhappy, lead tragic lives, and dwell in a "world of darkness" (p. 7). Best (1943) describes a similar misconception of the deaf as generally morose. The blind and the deaf are also sometimes seen as inner-directed and contemplative. Such images of the affective states and inner worlds of the blind and the deaf contrast sharply with stereotypes of the mentally retarded as happy fools, dwelling in blissful ignorance.

As Monbeck discusses, these kinds of misconceptions are related to others. For instance, if one supposes the blind to be miserable, then the idea easily follows that they are "consumed with envy of sighted people" (Monbeck, 1973, p. 15). Such an idea has some basis in reality, since people who lose their sight sometimes do become preoccupied with the loss, but the idea that the life experience of the congenitally blind is dominated by misery and envy is false (Monbeck, 1973, pp. 15-16). This misconception, then, also illustrates the failure to make differentiations about handicaps. The congenitally and adventitiously blind are distinct groups, yet the distinction is frequently ignored.

Stereotyping of Social Role

The topic of stereotyping is far beyond the scope of the present brief discussion. The major point to be made here is not simply that the blind are stereotyped as beggars, the mentally retarded as jesters or court fools, but that stereotyped images of the handicapped pervade this culture in subtle ways as well.

Recent concern with the portrayal of the handicapped as occupants of a limited number of social roles centers around the depiction of the handicapped on television. Leonard (1978) argues that television, as a "modern myth-maker" (p. 58), reflects and affects public ideas of the handicapped as myth and folklore have done traditionally.

Blatt (1977) comments on how seldom the handicapped appear on television as low key, incidental figures. According to Blatt, they usually appear in five ways. First, they are figures of evil, appearing, for instance, as physically disabled monsters. Second, they are superheroes. As Blatt says, "for children to distinguish orthopedic treatments from bionic repairs is not always easy" (p. 12). Third, handicapped victims appear, as when a bad character demonstrates the full extent of his villainy by robbing the blind proprietor of a newsstand. Fourth, as on Zoom and Feeling Free, the handicapped are special guests, whose "main claim to television guest status must come from their disability" (p. 13). Fifth, telethons, cultural specials, documentaries, and such present the handicapped in an anything but incidental way.

Leonard (1978), reporting on a study of the portrayal of handicapped people on prime time, major network television narrative shows, concludes that the handicapped are presented as powerless nonpersons. Although between ten and twenty percent of people in the United States are handicapped, only three percent of the characters in the shows Leonard studied were handicapped. The handicapped were not only underrepresented, but also misrepresented in many ways. For instance, handicapped characters were often children; 40.8% of the handicapped were under 19 years old, 8.5% of the nonhandicapped. Even controlling for the high proportion of children among the handicapped characters, the handicapped were still seen in schools and institutions more often than were the nonhandicapped, and more often portrayed as having no occupation. Leonard also confirms Blatt's (1977) claim that on television, the handicapped are often victims. In many ways, according to Leonard, the handicapped are presented as unpleasant: uncultured, stupid, weak, impatient, selfish, and sloppy in dress. Finally, stories about handicapped characters are more apt than are other stories to have happy endings, sometimes presenting viewers "with the cruel illusion of miracle cures" (Leonard, 1978, p. 115).

Idealization and Compensation

Blatt's (1977) description of the image of the handicapped as superhero is related to a theme of idealization and to a belief that the handicapped are somehow compensated for their handicaps. One form of idealization is the belief Monbeck (1973) notes that the blind are morally or spiritually better than the sighted. Another example is evident in the Yiddish proverb that "a complete fool is half a prophet" (Kanner, 1964).

A specific form of idealization is the belief in compensation for disabilities. Such compensation is sometimes seen as god-given. For instance, among ancient Greeks and Romans, blindness was often construed as divine punishment, and the gods were believed to compensate by means of the bestowal of special gifts, healing powers, prophecy, and such. The seer Tieresias is so compensated, although Oedipus is not.

Modern versions of such beliefs in divine compensation are beliefs about sixth senses and hyperacuity of remaining senses, particularly in the blind and the deaf. One such belief is that the blind have unusual musical ability. Another is the interpretation of the sensory acuteness of the deaf as something other than the result of exhaustive practice (Lowenfeld, 1963, pp. 238-239). A more radical form is the idea of "facial vision" or "eyes in the skin" by means of which the blind are supposed to see (Monbeck, 1973, p. 17).

Degeneracy and Immorality

In contrast to idealizations are beliefs in connections between handicapping conditions and many kinds of immorality, degeneracy, and outright sin. Such a theme is evident in the idea noted above that blindness is a divine punishment, often for having seen something forbidden, often related to sexual transgression. A similar theme appears in relation to the mentally retarded in the notion that the retarded, as masses of flesh without souls, are open to the influence of Satan, a belief Kanner (1964, p. 7) attributes to Martin Luther. The idea is also related to the understanding of mental illness as possession by demons and to the attribution of the "evil eye" to the handicapped, especially to the physically disabled (Hewett, 1977).

A general theme related to that of moral degeneracy is that of helplessness or uselessness: Helplessness leads to misery, idleness, and boredom, which pave the way for immorality (Monbeck, 1973, p. 16). A concrete example of the immorality and degeneracy theme is the "Eugenics Scare" of the early twentieth century (Kanner, 1964, p. 128). The emergence of the mental testing movement, the identification of heredity as a factor in mental retardation, and other events gave rise to the view that "the retarded were essentially defective individuals whose condition was largely heredity, by implication incurable, and that it produced a life style characterized as immoral, degenerate, and depraved" (Zigler & Harter, 1969, p. 1066).

Mystery, Danger, and Stigma

As Monbeck (1973) mentions with regard to blindness, images of the handicapped as wielders of evil power are incompatible with juxtaposed images of the handicapped as helpless people. If, however, the handicapped are perceived as mysteriously evil or as divinely stigmatized, marked out by the gods, it follows that they may be a potential danger or blessing. They may be seen as a source of pollution for the gene pool, as a social menace, or, contrastively, as a target sparing the rest of us.

According to Kanner (1964), in 1811, Napoleon ordered that the cretins in the canton of Wallis be moved to higher, presumably more salubrious altitudes. The removal of the cretins was resisted by other villagers because of a belief that the cretins were "a sort of target of God's wrath which spared the rest of the populace" (1964, p. 92). Such a desire to keep the handicapped close at hand is something of an historical rarity, in sharp contrast to the custom in ancient Sparta of abandoning the mentally retarded and exposing handicapped infants, to the Athenian killing of deaf children, to the power of the Roman pater familias to practice infanticide, and to the practices of Nazi Germany.

Contagion

A specific source of fear of the handicapped is the belief that handicaps are contagious. In part, the idea of contagion is related to the association of blindness with venereal disease, and to the idea that if the feebleminded breed the feebleminded, then association with the mentally retarded could produce unwanted outcomes. Beliefs in contagion are occasionally noted in contemporary reports. For instance, Marge (1966), in reporting a study of the social status of speech-handicapped children, describes some parents of such children as thinking that speech disorders can be contagious, "contracted in the form of a disease" (Marge, 1966, p. 174).

Total and Magical Cures

A misconception of the etiology and nature of handicaps seems to give rise to optimistic and sometimes curious ideas about outright cures. The Bible provides many illustrations of the belief that divine intervention can eradicate disabilities. The first efforts to institutionalize the mentally retarded were founded on the idea of effecting a total cure. In the study by Marge (1966) noted above, 29% of the parents studied thought that speech handicaps could be cured by means of medication. Physicalistic cures for mental illness have included efforts to release the demons causing madness, and efforts to provide exits for causative agents in the blood and brain by blood-letting.

An illustration of the connection between conceptions of the handicapped and beliefs about cures is the idea, reported by Best (1943), that "the deaf may possess a sort of latent hearing which needs only to be awakened, and which may be awakened by appropriate means" (p. 329), including exposure to music.

CHAPTER 3. THE STUDY DESIGN

This study uses a cross-sectional design with subjects in five age-grade groups: preschoolers, primary-grade children, junior high school students, high school students, and adults. Because interest was in people from the preschool years through adulthood, the use of this cross-sectional rather than longitudinal approach was necessary. The weakness of this design is that it does not permit one to use data to draw conclusions about development in the way that a longitudinal design does. It does, however, allow one to obtain a general picture of subjects in different age groups in a way that suggests more and less likely hypotheses about development. The use of a design that yields data about a general picture of subjects' conceptions of handicaps at widely differing ages is approriate given the exploratory nature of this study. That is, the study was intended to explore the development of concept of handicaps in a way that would give a broad, initial picture. The cross-sectional design was appropriate for this purpose.

Subjects

Subjects were selected from suburban communities in the Greater Boston area. These communities are relatively prosperous towns and cities with good school systems. Although no formal computation was made of socioeconomic status, it was clear that children came from middle-class and upper-middle-class families. Adults were professionals.

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The general criteria used in selecting subjects were as follows:

1. All subjects were nonhandicapped. None had any of the handicaps of interest in this study, and none had other conditions that were handicapping in daily life.

2. Subjects' families contained no handicapped members. Children did not have handicapped parents or siblings; additionally, adults did not have handicapped spouses or children.

The preschool and primary grade subjects were in classes containing no handicapped children. The junior high and high school subjects had had some contact with occasional handicapped children in school but were not in programs that included many handicapped children.

In short, the subjects were in no way representative of the general public. Although no IQ or socioeconomic data were obtained formally, it was clear the subjects were an unusually bright, verbal group of people from relatively prosperous environments. In interpreting the results of this study, it is important to bear in mind this general characterization of the sample.

This sample was chosen because in this exploratory work, it was important to maximize the possibility of obtaining responses from child subjects. By selecting a group of bright, verbal children, we were able to collect data on children who, although very young, were able to understand questions, to provide responses, and to explain what they meant. These children were accustomed to engaging in discussions with adults and were adept at verbalizing their thoughts.

Age Groups

Child subjects were selected so as to form four age-grade groups. For the purpose of this study, preschoolers are 2- through 5-year olds in preschool or kindergarten. Primary grade subjects are 6- through 8-year olds in first, second, and third grades. Junior high subjects are 11- through 13-year olds; high school subjects are 14- through 18-year olds. These labels for the age-grade groups conform to common usage except for the early adolescent age subjects: That group includes sixth-graders as well as subjects actually in the junior-high years. Additionally, "junior high" subjects were not all in systems using junior high schools. In short, the label junior-high group is used as a shorthand to avoid the verbose but exact "11- through 13-year olds."

Adult subjects were in their mid-thirties and early forties. Because interviewers felt strongly that asking for information about age disrupted interviews with adults, exact ages were not obtained. For coding purposes, all adults were coded as 35 years old.

Informed Consent

In obtaining permission for child subjects to participate, the following steps were used. First, the study was explained to appropriate school administrators, the particular officials varied from school system to school system. Once these administrators had agreed to allow the schools to be involved in the study, the study was explained to teachers of potential subjects. When teachers agreed to allow participation, letters were sent home to the parents of potential subjects. (A sample letter and consent form are presented in Appendix A.) Parents who agreed to have children participate returned signed consent forms. Finally, at the beginning of each interview, the general nature of the study was explained to the child. (As an additional guarantee that subjects participate only if they were agreeable to doing so, interviewers were instructed to terminate any interview in which a subject did not wish to participate.)

It may be helpful to researchers contemplating similar work with preschoolers to know that several schools serving preschoolers (day care centers) refused permission to participate in the study on the grounds that the interviews might be upsetting to the children. The general idea conveyed was that young children are prone to fearful fantasies and that discussing handicaps would feed their fears. (Our experience did not support that idea, as discussed in later chapters.)

Adult participants were told the nature of the study and were asked to sign a consent form. As in child interviews, interviewers were instructed to terminate interviews if adult subjects expressed a desire to stop.

Description of Sample. Tables 3-1 and 3-2 summarize the sex and age composition of the sample. As the tables show, the adult sample was small compared to child samples. The adults were included mainly in order to provide some standard of comparison for the children; adult conceptions per se were not a main focus of the study. Because adult conceptions were of secondary interest,

Table 3-1

Sex Composition of Sample

Group	Sex	
	Male	Female
Preschool (n=21)	13	8
Primary (n=26)	12	14
Junior High (n=21)	6	15
High School (n=24)	10	14
Adult (n=11)	6	5

Table 3-2

Age Composition of Sample

Group	Mean Age In Years	SD	Minimum	Maximum
Preschool	3.4	0.7	2	5
Primary	6.9	0.7	6	8
Junior High	11.6	0.8	11	13
High School	15.6	1.4	14	18

and because interviewing, transcribing, and coding each interview was time-consuming and expensive, it seemed appropriate to concentrate the resources available on child subjects, and to include the adult subjects in order to provide some data for interpreting the data on children. In addition, the data on adults were obtained in order to provide information that might be helpful in future work focusing on adult conceptions of handicaps.

Information From Clinical Interviews

The study reported here uses a semistandardized interview to gather data on children's conceptions of handicaps. The interview technique is used for two reasons. First, it is a basic research tool of the theoretical perspective used here, as discussed below. Second, clinical interviews, unlike paper and pencil tests and other highly standardized instruments, yield rich data about subjects' spontaneous ideas, associations, and such. When interviews are used, the investigator does not, of course, automatically find out what the child means by what he says. The interviewer does not have a direct line to the child's mind, but at least has the opportunity to ask the child what he or she means. Clinical interviews, then, generate not only data for describing qualitatively different kinds of understanding; they also provide information about attitudes and perceptions that can be used in interpreting results given by standardized measures.

In highly practical terms, the data from interviews can tell teachers what conceptions and misconceptions children of different ages may have about handicaps. For example, the classroom teacher faced with the task of introducing a blind or deaf child to a class of nonhandicapped children may find it helpful to know that young children sometimes see blindness as the result of "looking straight at the sun," and sometimes confuse the ability to speak with the ability to hear. Clinical interviews provide data on such beliefs, data which are of potential help not only in understanding the young children who voice such beliefs, but also in understanding the fears and fantasies of older children and adults.

Besides generating data on phenomenological aspects of understanding, clinical interview data can be used to evaluate children's factual knowledge about handicaps. For example, there is some evidence to indicate that the label mentally retarded can, in the right circumstances, protect the labeled child against alternative, stigmatizing interpretations of his behavior (Siperstein, & Budoff, 1980). Clearly, knowing the term deaf and what it means can aid one in understanding why a deaf child may speak differently from other children. The clinical interview can reveal the extent to which children use such terms and explore their understanding of the meanings of these terms. (For a thorough discussion of the use of interviews with children, including a comparison of the interview with other techniques, see Yarrow, 1960.)

Instrument Development

The interviewing technique used in this study (see Appendix B) represents an adaptation of the classic Piagetian interview technique (Piaget, 1960) to the needs of American research (see Yarrow, 1960). As Inhelder describes the classic Genevan clinical method, "our experiments have nothing in common with tests, but tend to be an exchange of views, a relatively unstructured convention." (1968, p.282). The interviewer using this method tries to direct the child toward topics and toward points of interest without suggesting responses. He also questions the child about responses and countersuggests in order to assess the extent to which the child simply answers at random, expresses a transitory opinion, or expresses a genuine conviction.

Some modifications in this classic method are necessary if one wants to be sure that comparisons of subjects' responses are not, in fact, comparisons of varying interview schedules. The interview schedule used in this study, hence, is a standard set of questions presented to all subjects, but used flexibly, according to the subject's responses rather than according to a rigid format (see Yarrow, 1960). For example, if a subject enthusiastically began to describe a mentally retarded child at the beginning of the interview, the interviewer encouraged him to continue and asked the questions about mental retardation appearing toward the end of the interview schedule.

The particular questions included in the interview schedule, and some questions that do not appear, merit discussion. Inclusion and exclusion of questions was determined not only by general topics of interest and general principles of interviewing, but also by extensive pilot testing and by ethical considerations as well.

Pilot testing began with an effort to elicit responses to questions about "difference," leaving the children free to indicate what people and characteristics they themselves saw as different. In response to questions about "differences," children mentioned hair colors, different languages, personality traits, and other factors, but they did not mention handicaps. Only when interviewers began to ask about specific handicaps did children begin to talk about content of interest in the study. To ask about "differences" without specifying that one wanted to hear about handicaps meant wasting interview time (particularly precious with very young subjects) on irrelevant material, without providing a compensatory gain in spontaneous mention of handicaps. Questions meant to be nonsuggestive of responses were, in fact, nonsuggestive of the topic. In short, pilot testing showed that it was necessary to be very specific in order to direct children to the topic of handicaps.

A preliminary version of the interview schedule represented an initial effort to make the interview questions specific and to elicit statements about handicaps. It included, however, considerable introductory material about general "differences." As in the original pilot interviews, the questions not directly about handicaps elicited no information about handicaps. Rather, those questions used up precious interview time and subjects' interest without yielding any directly relevant information.

The interview schedule used in the study reported here (Appendix B) reflects the information gained in pilot work in that it is directly and specifically focused on eliciting information about handicaps.

Content and Sequence of the Interview

After a brief introduction, the interviewer asks children whether they know words for "not being able to see," "not being able to hear," and so forth. This part of the interview has two main purposes. It allows one to see whether the child, in fact, provides labels like "blind" and "deaf." It also introduces the focus of the interview; it primes the child to talk about handicaps. In introducing the focus of the interview, interviewers were aware that subjects, particularly older subjects, might want to know the purpose of the interview and the reasons they themselves had been selected as subjects. For instance, subjects might have feared that they had been selected because of some personal characteristics. Consequently, the interviewer stated, truthfully, "I want to know what ordinary people like you think."* Children who requested further information were given it.

The interviewer then asks about blindness, deafness, and orthopedic handicaps, about mental retardation, and about emotional or behavioral problems. In each of these subsections, the interviewer first tries to find out whether the child is aware of knowing any handicapped people or has any personal familiarity with particular handicaps. He then asks, as generally as possible, to be told about anyone identified as handicapped. When anyone is identified, he encourages the child to talk about the person, or when no particular person is mentioned, to talk about the handicap.

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*Some readers of the interview schedule have objected to the use of the word ordinary. A few readers felt that this term might suggest that handicapped people are in some way not ordinary. It is our impression that subjects did not worry that they had been singled out for interviewing, and that they did not pay a great deal of attention to the term ordinary. Given the objections to the term, it would seem wise to delete the term from any future forms of this interview schedule. We apologize for any unintentional offense the term may give.

The questions and probes about each handicap are designed not only to encourage the child to state factual information, but also to reveal implicit assumptions, fantasies, and feelings. Consequently, the child is asked what it would be like to have the handicap, to imagine what particular handicapped children he mentions will be like as adults, and to discuss other children's reactions to the person.

These sets of questions raise two issues of great importance not only for this section of the interview, but for the interview as a whole. First, discussing handicaps could be disturbing to certain children. Second, asking certain questions could suggest frightening fantasies. In fact, the interviews were clearly not distressing to subjects, but avoiding distress meant not pushing children to discuss material that might have been upsetting. For example, a four-year-old female pilot subject described seeing a man with one leg. From her manner, it was clear that to ask her, say, how she would feel if so handicapped would have been to scare her. Concern for the well-being of subjects meant avoiding issues one might have pursued when interviewing about different content. Even in situations with little apparent potential for eliciting fearful fantasies, subjects were not asked questions of the form, "How would *you* feel if *you*..."

Following subsections on deafness and on psychological disturbances, respectively, are two brief stories describing handicapped children, together with appropriate questions. These stories were included partly to vary the format of the interview. Pilot testing showed that asking about each handicap, then asking basically the same set of questions about each, created a tedious atmosphere. Using the stories also allowed one to pose delicate questions without forcing the subjects to confront such questions personally and directly. Finally, the stories allowed collection of data on judgments about mainstreaming.

The second story asks for discussion of the pros and cons of mainstreaming. In responding to questions about the story, subjects could air views on this topic without the responsibility of expressing ideas about real people. A child could say that Joe, the fictional character, should be sent to a special school without expressing the opinion that Billy, a real classmate, should go away. Following the first story, which concerns a blind child and a deaf child who live next door to one another, the interviewer asks whether the blind child could become deaf. This question, deliberately vague, presented children with the opportunity to express fantasies about contagion of handicaps, without suggesting the fantasy. That is, the question could be interpreted as about the possibility that multiple handicaps might occur, or could be interpreted as about the origins of blindness and deafness in general. The stories also provided foci of discussion for subjects who did not identify any real people as handicapped.

The final section of the interview begins with a question about whether the child can think of any handicaps not previously mentioned, a question designed partly to guard against the possibility that previous questions, however specific, had failed to elicit information about handicapped people known to the child. This question also presents the child, now well-oriented to the topic of handicaps, with the opportunity to define new material as relevant.

The remaining questions are placed in the final section because they are suggestive. (Interview technique dictates that if one must suggest, it is better to do so at the end of the interview than at the beginning or middle.) Specifically, the questions on which problems would be harder and easier to live with than others suggest that some are harder and easier, and present the child with this framework.

The question about the term retard presents the child with the opportunity and permission to reveal negative stereotypes, either his own or those of his peer group. To present this term early in the interview might have been to suggest that the interviewer customarily referred to the handicapped using terms like retard. Such a suggestion about the interviewer would obviously have interfered with some subjects' willingness to talk frankly about the handicapped.

This description of the interview schedule focuses on the use of the schedule with child subjects. When adults and older children were interviewed, minor changes in phrasing were made in order to make the questions appropriate for older subjects.

It is important, in examining the interview schedule, to note explicitly some questions that might have been asked but were not asked. Specifically, as discussed in the literature review section of this report and as discussed later, the topic of popular beliefs about the handicapped is an interesting one which might have been used to generate interview questions. For example, interviewers could have asked whether the blind can somehow "see" in a special way; whether mentally retarded people have universally cheerful temperaments; whether handicapped people have special powers. These kinds of questions were not included for a number of reasons. First, these questions are blatantly suggestive. To ask these questions might well have been to suggest agreement. Second, from the standpoint of ethics, to suggest ideas like these is not merely to distort results, but rather, to perpetuate objectionable stereotypes. Third, more generally, the omission of questions like these represents a decision about appropriate goals of the study given the present state of knowledge about children's understanding of handicaps. Essentially, in choosing which questions to include and exclude, one confronts the following problem: If one asks a question, one risks suggesting a response. On the other hand, if one does not ask a question, one does not know what the answer to it might have been, but one does have the opportunity to hear spontaneous references to the topic of interest.

Our decision, then, was to avoid asking directly about topics that there are ethical reasons to avoid: harmful stereotypes, beliefs that handicaps are contagious, and such. In addition, some questions were not asked because of considerations of time. Discussing five different kinds of handicaps, plus additional material, in one interview, meant omitting some topics of potential interest. Clearly, one could devote an entire interview, or a series of many interviews, to discussing any one of the handicaps of interest here. To do so was simply far beyond the scope of this study. Finally, as noted in the literature review section of this report, few interview studies of conceptions of handicaps have been conducted, and few articles report results in a way that is close enough to raw interview data to suggest effective questions. It is our hope that this study provides the kind of information that would have been useful to us in the initial stages of generating an interview schedule.

In summary, the interview schedule was designed to assess subjects' understanding of a wide variety of handicaps. It aims at eliciting two kinds of information: first, information about how much factual knowledge, including terminology, the person has about handicaps, and, second, information about how the person conceptualizes handicaps. The first kind of information can be used to answer questions like the following: Does the person use terms like blind, deaf, and retarded? Is he aware that blindness, deafness, and other handicaps are usually permanent? The second kind of information can be used to answer questions like the following: How does the person conceptualize the behavior of a retarded child? What are the salient features of handicaps for the child?

The interview, then, is designed to give quantitative information about how much the person says about handicaps and qualitative information about beliefs and subjective views of particular handicapped people and handicaps in general.

Procedures

Interviewer Selection and Training

As previous discussions make clear, the interviewing technique used in this study places a considerable burden on the interviewer. The interviewer does not simply read a series of questions, but rather, asks questions appropriately; prompts; follows the subject's train of thought; and otherwise attends to the subject in a way that requires considerable alertness and sensitivity. In selecting interviewers, then, we were careful to choose people deemed to have these capacities.

Each interviewer was interviewed (using the schedule presented in Appendix B, or its pilot versions) and conducted training interviews. These initial interviews were audiotape-recorded. The interviews were reviewed and the interviewer was given considerable feedback about deviations from the standard questions, problems of wording or style, strengths evident in the interviews, and various other skills and weaknesses. Only after a process of supervision and training did interviewers actually conduct interviews with subjects.

Interviewers were five young adult women. All had had work experience with children, including very young children.

Interviewing

All interviews were conducted individually. Adults were interviewed in their homes. Primary grade, junior high, and high school students were interviewed at schools in conference rooms, vacant classrooms, or other quiet, private locations.

Preschoolers were interviewed in as quiet and separate a part of their day care center as possible. Specifically, some preschoolers were easier to interview when they were seated on the floor of a hallway near their own classes than when they were asked to go to some relatively unfamiliar part of the center. Because of the considerable difficulties that occur when one asks a preschooler to sit and have a discussion, the interviewers were highly flexible about where the interviews were conducted. While some interviews with preschoolers were conducted with the interviewer and the interviewee seated in chairs in a conference room, others were conducted with both participants sprawled on the floor. In addition, during the interviews with preschoolers, the interviewers allowed the children to listen to sections of the tape-recording; to sing songs and tell stories; and otherwise to engage in play when some diversion was needed. Without such minor adaptation to the needs of the children, it would have been impossible to interview the very young subjects used in this study.

Transcription

All interviews were transcribed. For the sake of economy, transcripts are not the precise word-for-word transcripts used in linguistic analyses (e.g., "em" and "er" are deleted), and occasional sections are summarized (e.g., detailed recapitulations of movie plots).

Coding System

The coding manual used in this study is presented in a separate volume of this report. The coding scheme was developed during the coding of pilot data. Most variables were coded using dichotomous categories (e.g., Does the subject mention...?) and other nominal level scales. The particular topics covered by the coding scheme were drawn from two sources: previous research and literature, and pilot data.

Because the variables coded were numerous, we have followed the somewhat unconventional practice of describing the variables and the coding scheme at the beginning of chapters in this report in which relevant results occur. That is, chapters present the topic of interest, the coding, then relevant results. This practice is used mainly because a full presentation of the coding system in one chapter, then presentations of results in later sections would require extensive repetition of material about coding.

The Unit of Coding

The unit coded was a reference to or mention of relevant material. Specifically, the units coded were not sentences, but rather, references or pieces of information. For example, if a subject replied to a question about the causes of deafness by discussing several different causes, all in one sentence, then all of these separate mentions of causes were coded, although all were referred to in a single sentence. A single sentence might well yield information relevant to the coding of many variables; if so, all the relevant information was all coded. Some coding was based upon judgments of the overall quality of explanations. For instance, the pessimistic, realistic, or optimistic nature of the subject's view of the prognosis for a handicap was coded on the basis of the material the subject expressed, whether he or she took one phrase or ten sentences to express his or her view.

In short, the coding system used here should not be confused with systems in which sentences are coded. In this system, one sentence might yield information relevant to many variables, and was so treated.

Interrater Reliability

Interrater reliability was examined by having each of the two coders independently code a subsample of 30 randomly selected interviews. Intraclass correlation coefficients (Winer, 1971), were used to assess interrater agreement for the coding of numbers of terms subjects used to discuss handicaps, while Kappa (Light, 1971), was used to assess interrater agreement for the remaining variables.

The appropriate statistic (intraclass correlation coefficient or Kappa) for each variable appears with each variable in the coding manual. Intraclass correlation coefficients for the coding of numbers of terms were all acceptably high (.73 or above). For the remaining variables, all with Kappas below .60 were dropped. Although it is widely agreed among statisticians that Kappa rather than the percent agreement statistic is appropriate for assessing agreement for the coding of nominal variables (see Light, 1971), percent agreement is nevertheless widely used. Furthermore, percent agreement is a more intuitively meaningful statistic than is Kappa. Consequently, although the decisions about which variables to keep and drop were made on the basis of Kappa, percent agreement is reported for each variable. Percent agreement is reported only for the benefit of readers unfamiliar with Kappa who desire a rough index of agreement.

Treatment of Missing Data

Occasional portions of tape recordings were accidently destroyed; questions were sometimes omitted from interviews; and other events took place that sometimes resulted in some missing data for a subject. In all analyses, subjects for whom data were missing were simply dropped from the relevant analyses.

CHAPTER 4. EXPRESSED AWARENESS OF HANDICAPS

In this chapter, we consider a first concern in understanding children's concepts of handicaps: their expressed awareness that handicaps exist. This chapter first describes the coding of expressed awareness, then presents results concerning patterns of expressed awareness, confusions among different kinds of handicaps, and the examination of expressed awareness data for sex differences.

Coding Expressed Awareness of Handicaps

Because expressed awareness of a handicap is not an either-or phenomenon, the coding system was designed to reflect several different kinds of evident awareness of each handicap. The basic types of expressed awareness coded were as follows:

0. No evident awareness. The subject simply had nothing whatsoever to say in reply to questions about the handicap, but rather, gave a blank look, replied with completely irrelevant material, and continued to do so when prompted. The subject used no labels for the handicap and seemed not to understand the interviewer's references to the handicap.

1. Denial. The (very young) subject replied to questions only with an assertion that everyone can do whatever the interviewer mentioned: If asked about not being able to see, the subject said that everyone can see. Furthermore, the subject used no labels related to the handicap, and provided no material beyond the denial.

2. Entertainment of the idea. The subject provided relevant material, entertained the idea of the handicap, agreed that some people might be unable to do something, but seemed to be unaware

that the handicap really exists. For instance, the (young) child might be willing to converse about being unable to see without using the word blind and without giving any other evidence, however slight, of ever having heard of blindness before.

3. Distortion. The subject discussed material relevant to the handicap, but did so in terms of some condition other than the handicap. For instance, the subject might talk about material relevant to orthopedic handicaps, but might do so with constant reference to people with broken legs, sprained ankles, and other nonhandicapping conditions.

4. Awareness. The subject provided a correct label for the handicap or gave any other sign, however slight, of understanding that the handicap really exists. For instance, a young subject might not provide the word deaf but, when asked about not being able to hear, might describe Linda, the character on Sesame Street.

This system of coding awareness was used successfully for all handicaps except orthopedic handicaps. Mainly because it is extremely difficult to distinguish between awareness of orthopedic handicaps and awareness of general injury, interrater reliability was unacceptabably low for the coding of awareness described above. Raters were, however, able to agree satisfactorily upon a distinction between categories 0 and 1 together, and 2, 3, 4 together. They were also able to agree in coding whether or not the subject discussed orthopedic handicaps in terms of temporary conditions, when coding a separate variable.

Consequently, analyses pertaining to awareness of orthopedic handicaps use only the following categorizations of expressed awareness: (a) minimal awareness means that a subject was coded as 2, 3, or 4, and (b) expressed awareness is the categorization of a subject as 2, 3, or 4, plus a coding of the subject as not discussing orthopedic handicaps as broken legs or as other temporary injuries.

For all other handicaps, minimal awareness similarly means categorization as 2, 3, or 4, while expressed awareness means categorization as 4.

Patterns of Expressed Awareness of Handicaps

Pilot study results, together with impressions formed during interviews, suggested that the observed patterns of expressed awareness of handicaps might be described by means of Guttman scales. Essentially, the purpose of performing such scalogram analyses was to answer the following question: Is there an overall harder-to-easier scaling observable in expressions of awareness of different handicaps?

Two scalogram analyses were performed on data about expressed awareness of the five handicaps about which subjects were questioned. These two analyses, in effect, define "expressed awareness" in two different ways. The first analysis examines minimal awareness: whether subjects responded to questions about a handicap with any content at all (i.e., whether they did something other than look completely blank, assert that a handicap does not exist, or talk about something totally unrelated to handicaps). The second, in contrast, examines the issue of whether the subjects gave evidence of knowing that a handicap, in fact, exists. The criteria for "showing awareness," even for the second analysis, are quite lenient. For instance, to be coded as "passing" the awareness of blindness item of the scale in the second analysis, a subject might only supply the word blind or give some other indication of ever having heard of blindness before the interview. The two analyses, then, must not be interpreted as pertaining respectively to lenient and stringent definitions, except in the context of this study, since to call the criteria used in the second analysis "stringent" would be misleading in a context larger than this one. In a larger sense, the "stringent" definition of this study is a lenient one.

Scalogram Related to Minimal Awareness

For the purposes of this analysis, subjects were credited with "passing" an item if they engaged in any discussion related to the handicap, whether or not they seemed ever to have heard of the handicap before. For this analysis, a subject might talk about orthopedic handicaps as if these handicaps were all broken legs; might discuss what it would be like not to be able to see, without evident awareness that some people cannot see; and so forth, yet be considered to have "passed" the relevant handicaps. A "pass," then, means a demonstration of the ability to discuss material relevant to the handicap.

The scale under consideration is composed of five items: discussing (a) psychological disturbances, (b) mental retardation, (c) orthopedic handicaps, (d) blindness, and (e) deafness. The scalogram analysis of "passes" and "fails" on these items was performed in such a way that the computer ordered these items from most to least difficult.* The analysis itself shows the extent to which the data conform to "ideal" patterns of passing and failing the five items composing the scale. Table 4-1 shows such "ideal" types, where a+ indicates passing; a-, failing an item.

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*These analyses were performed using SPSS.

The most to least difficult order shown in the table is that chosen by the computer, with the "Psychological Disturbance" item most difficult to pass, the blindness item easiest. Of the 99 subjects on whom complete data for the analysis were available, 97 conformed to these ideal scale types. One subject discussed only material related to blindness, but not deafness. One subject discussed material related to deafness and to orthopedic handicaps, but not material related to blindness.

These results indicate that if a subject discussed material related to only four of the five handicaps, the one he or she failed to discuss was psychological disturbance. If any two were not discussed at all, those two were psychological disturbance and mental retardation. If three, psychological disturbance, mental retardation, and orthopedic handicaps; if four, psychological disturbance, mental retardation, orthopedic handicaps, and blindness, with the two exceptions noted above.

A statistic which reflects the extent to which the number of items a subject passes can predict his or her response pattern is the coefficient of reproducibility. For this analysis, the coefficient of reproducibility is 0.99. Clearly, the number of items passed is an excellent predictor of which items were passed.

Another statistic useful in evaluating the scale is the coefficient of scalability, which reflects the extent to which the

Table 4-1

Ideal Guttman Scale Types

For Minimal Awareness

	Items				
Ideal Types	Psychological Disturbance	Mental Retardation	Orthopedic Handicaps	Blindness	Deafness
5	+	+	+	+	+
4	-	+	+	+	+
3	-	-	+	+	+
2	-	-	-	+	+
1	-	-	-	-	+
0	-	-	-	-	-

scale is unidimensional and cumulative. For this analysis, the coefficient of scalability is .96. (This coefficient runs from 0 to 1).

In short, if one defines "expressed awareness" in minimal terms as engaging in some conversation even marginally related to a handicap, then discussing the five handicaps is highly scalable. Children are most easily aware of deafness, then blindness, orthopedic handicaps, mental retardation, and least aware of psychological disturbance.

Expressed Awareness that a Handicap Exists

An analysis similar to that just presented was performed with "passing" an item defined in a different way. For this analysis, a subject "passed" an item if he or she supplied a term for the handicap (e.g., when asked about words for not being able to see, said "blind") or gave some other evidence of knowing that a handicap really exists. For example, a subject might "pass" the blindness item by describing a person who could not see as using a white cane; or might make any other expression of awareness that there really are blind people.

The scale under consideration is composed of the same items used in the previous scale, but "pass" was defined as noted above. This time, however, the computer's ordering of most-to-least difficult items differed somewhat: This time, deafness was more difficult than blindness. The "ideal" types for this analysis, then, are shown in Table 4-2, where a+ indicates passing an item; a-, failing an item.

Table 4-2

Ideal Guttman Scale Types

For Expressed Awareness that a Handicap Exists

	Items				
Ideal Types	Psychological Disturbance	Mental Retardation	Orthopedic Handicaps	Deafness	Blindness
5	+	+	+	+	+
4	-	+	+	+	+
3	-	-	+	+	+
2	-	-	-	+	+
1	-	-	-	-	+
0	-	-	-	-	-

Of the 99 subjects on whom complete data related to awareness were available, 85 showed patterns conforming to these "ideal" types. Two subjects passed all items except the mental retardation item. Three passed the blindness, deafness, and mental retardation items, but failed the orthopedic handicaps and psychological disturbance items. Two passed only the orthopedic handicap and deafness items, and two the orthopedic handicap and blindness items. Finally, one passed only the deafness item, and four passed only the orthopedic handicaps item. The coefficient of reproducibility for this analysis is .94, and the coefficient of scalability, .80.

In short, when one defines "expressed awareness" as an expression of awareness that a handicap really exists, then the ordering from most to least difficult item changes slightly. The number of items subjects passed remains a good predictor of which items they passed, and the items are highly scalable. The statistics reflecting reproducibility and scalability are, however, somewhat lower than those for the previous scalogram analysis. However, the appropriate generalization still holds. The more visible the handicapping condition, the greater the awareness. Psychological disturbances are least visible, and children are least aware of them.

Patterns of Expressed Awareness in Different Age Groups

Analyses of the patterns of awareness of handicaps presented so far have shown that a rather limited number of patterns occurred and that the various kinds of handicaps may be described on a scale, with psychological disturbances most difficult, then mental retardation, then orthopedic handicaps, and finally, either blindness or deafness. Having observed the occurrence of these patterns in the data considered as a whole, one then wonders whether these patterns characterize subjects in different age groups.

Minimal Awareness Patterns in Age Groups. Table 4-3 shows the percentage of subjects in each of the five age groups displaying each of the patterns of minimal awareness. The results presented in this table show that certain patterns do, as one would suppose, characterize different age groups.

All adults and all high school subjects may be described as showing perfect type 5 patterns; all these subjects provided some material relevant to psychological handicaps and to the other handicaps as well. This pattern was also observed in 61.1% of the junior high school age subjects, but in no younger subjects.

The ideal type 4 pattern--at least minimal awareness of all handicaps except psychological disturbance--was observed in 38.9% of the junior high school age subjects, 38.5% of the primary grade subjects, and in a single preschooler, but in no older subjects. (Perhaps not incidentally, the reader may be interested to know that the preschool child showing this pattern has a parent who works with handicapped children, including mentally retarded children).

The ideal type 3 pattern--at least minimal awareness of only orthopedic handicaps, blindness, and deafness--was shown by half of the primary grade children and about half of the preschoolers, and by no older subjects. The remaining patterns characterize only the preschoolers.

Table 4-3

Percentages of Subjects Showing Ideal and Nonideal Guttman Scale Patterns of Minimal Awareness of Handicaps

Types	Age Group				
	Preschool (n=21)	Primary (n=26)	Junior High (n=18)	High School (n=24)	Adult (n=11)
Ideal Types					
Type 5. Psychological disturbance, mental retardation, orthopedic handicaps, blindness and deafness	0	0	61.1	100.0	100.0
Type 4. Mental retardation, orthopedic handicaps, blindness, and deafness	4.5	38.5	38.9	0	0
Type 3. Orthopedic handicaps, blindness, and deafness	52.4	50.0	0	0	0
Type 2. Blindness and deafness	14.3	11.5	0	0	0
Type 1. Deafness	14.3	0	0	0	0
Type 0. No handicaps	4.8	0	0	0	0
Nonideal Types					
Orthopedic handicaps and deafness	4.8	0	0	0	0
Blindness	4.8	0	0	0	0

In short, displaying the ability to engage in some conversation at least minimally relevant to different handicaps is clearly related to age. The characterization of the handicaps as more and less difficult with regard to minimal awareness, then, seems to apply not only to the Guttman scaling of items, but to the course of development as well. That is, the patterns which contain "most difficult" Guttman scale items characterized older subjects, while the patterns containing only "less difficult" scale items were observed in the younger children.

Finally, the reader may have noticed that Table 4-3 shows a reverse "fan spread" picture. That is, the preschool subjects fit a total of 7 ideal and nonideal scale types; the primary school subjects, 3 types; the junior high school group, 2 types; while the older subjects are all at least minimally aware of all five handicaps. That is, the younger the age group, the more patterns observed.

Existence Awareness Patterns in Age Groups. Table 4-4 shows the percentages of subjects in each age group fitting each of the ideal and nonideal patterns of expressed awareness of handicaps. As is the case for minimal awareness, these patterns characterize particular age groups.

The ideal type 5 pattern, expressed awareness that all five of the handicaps really exist, characterizes all the adults, nearly all the high school age subjects (all but one subject), and nearly half of the junior high school age subjects, but no younger subjects.

Table 4-4

Percentages of Subjects Showing Ideal and Nonideal Guttman Scale Patterns of Awareness That Handicaps Exist

Types	Age Group				
	Preschool (n=21)	Primary (n=26)	Junior High (n=18)	High School (n=24)	Adult (n=11)
Ideal Types					
Type 5. Psychological disturbance, mental retardation, orthopedic handicaps, blindness and deafness	0	0	44.4	95.7	100.0
Type 4. Mental retardation, orthopedic handicaps, blindness, and deafness	0	19.2	44.4	0	0
Type 3. Orthopedic handicaps, blindness, and deafness	19.0	34.6	5.6	0	0
Type 2. Blindness and deafness	0	26.9	0	0	0
Type 1. Blindness	4.8	3.9	0	0	0
Type 0. No handicaps	38.1	0	0	0	0
Nonideal Types					
Psychological disturbance, orthopedic handicaps, blindness, and deafness	0	0	5.6	4.3	0
Mental retardation, blindness, and deafness	0	11.5	0	0	0
Orthopedic handicaps and blindness	4.8	3.9	0	0	0
Orthopedic handicaps and deafness	9.5	0	0	0	0
Orthopedic handicaps	19.0	0	0	0	0
Deafness	4.8	0	0	0	0

The ideal type 4 pattern, expressed awareness of the four handicaps other than psychological disturbances, characterizes almost half of the junior high school age subjects and about one-fifth of the primary grade subjects, but no high school age, adult, or preschool age subjects.

One nonideal pattern involving expressed awareness of four of the five handicaps occurred. One high school age subject and one junior high school age subject showed awareness of psychological disturbances, orthopedic handicaps, deafness, and blindness, but not of mental retardation.

The ideal type 3 pattern, expressed awareness of orthopedic handicaps, deafness, and blindness, was observed in one junior high school age subject, about one-third of the primary grade subjects, and about one-fifth of the preschoolers, but in no older subjects.

One "nonideal" pattern involving three handicaps occurred: expressed awareness of mental retardation, deafness, and blindness, but not of orthopedic handicaps. This pattern was observed only in the primary grade group.

The ideal type 2 pattern, expressed awareness of deafness and blindness, characterized one-fourth of the primary grade group and no subjects in other groups.

Two nonideal patterns involving two handicaps occurred: expressed awareness (a) of orthopedic handicaps and blindness, but not deafness, and (b) of orthopedic handicaps and deafness, but not blindness. These patterns were observed only in the two younger groups.

The ideal type 1 pattern of expressed awareness of blindness, in fact, occurred only twice, once in the primary group, once in the preschool group. The nonideal patterns of expressed awareness of only one handicap that occurred were (a) awareness of orthopedic handicaps and (b) awareness of deafness. These patterns were observed only in the preschool group.

Finally, only the preschoolers fit the type 0 pattern, expressed awareness of none of the five handicaps.

This examination of patterns of expressed awareness of handicaps shows a clear association between the patterns and the age groups. As is the case for patterns of minimal awareness, the patterns involving the more difficult items characterize the older groups. Similarly, the older groups show relatively few patterns, while the younger groups show more patterns. In particular, the preschool group showed most variation: While some children show no awareness that any handicaps exist, others showed awareness of one, two, and even three different handicaps. Considerable variation was also evident in the primary grade group.

A point that also emerges from this examination is as follows: The scaling of items from most to least difficult is a general characterization, but will not predict the single handicap a subject is aware of if he or she cites only one handicap. That is, subjects expressing awareness of one and only one handicap sometimes showed awareness of orthopedic handicaps or deafness rather than blindness.

Confusion Among Different Handicaps

Until this point, the discussion has focused on which handicapping conditions the subjects discussed, and their awareness that people have these conditions. The discussion thus far has been limited to this distinction of minimal awareness and awareness of people with a handicapping condition.

Such a simple characterization is inadequate because confusions among different handicaps occur. For instance, the observation that nonhandicapped people may speak very loudly to blind people is sometimes interpreted as a confusion between blindness and deafness. In order to explore the question of whether such confusions occurred, and to provide some characterization of awareness of handicaps that would describe misunderstandings as well as understanding, interviews were examined for confusions among handicaps.

Coding Confusions

Subjects were coded as confusing two handicaps if they attributed the defining characteristics of one handicap to people with another handicap. For instance, to confuse blindness and deafness might involve saying that blind people have trouble hearing the cars coming, or associating the coping devices of one handicap with another handicap. For instance, to say that deaf people read Braille is to confuse the two handicaps.

Results

Six different kinds of confusions between handicaps were observed. Table 4-5 lists these confusions and shows the number of subjects in each age group showing each observed kind of confusion.

Table 4-5

Numbers of Subjects Showing Certain Confusions Among Handicaps

Confusion Between:	Age Group Preschool	 Primary	 Jr.High	 H.S.	 Adult	 Total
Blindness, Deafness	2	2				4
Blindness, Mental Retardation		1				1
Deafness, Orthopedic Handicaps	1					1
Deafness, Mental Retardation		1	1	1		3
Orthopedic Handicaps, Mental Retardation		1		2		3
Mental Retardation, Psychological Disturbances			3	7		10
						22

in data about confusions because of the relatively late age at which it seems to be recognized at all.

Second, expressed awareness that handicaps exist, as defined, in this study, does not guarantee a sharp delineation of one handicap from another. Specifically, although all but one high school subject was described as fitting the ideal type 5 Guttman pattern of awareness, 7 of the 23 high school students expressed confusion between mental retardation and psychological disturbances.

Third, the Guttman scalogram analyses present a picture of high school students as, basically, indistinguishable from the adults in terms of expressed awareness that the five handicaps exist. These results show, in contrast, that the picture of high school subjects as adult-like is misleading when one examines confusions among handicaps. None of the adults showed any confusions among any handicaps, while the high school students frequently confused psychological disturbances and mental retardation, and occasionally confused mental retardation with other handicaps as well. These results suggest that considerable differentiation of concepts of certain handicaps occurs during and after the high school years.

A few excerpts from the interviews may help to show some of the ways in which confusions among handicaps were evident. The following excerpt shows a clear confusion between blindness and a coping device specific to deafness:

The confusion of blindness and deafness was observed four times. Two preschoolers and two primary grade children confused these handicaps, but no older subjects did so. One primary grade child confused blindness and mental retardation. One preschooler confused deafness and orthopedic handicaps. Deafness was confused with mental retardation by one primary grade subject, one junior high school age subject, and one high school age subject. Orthopedic handicaps and mental retardation were confused by three subjects, one primary grade subject and two high school age subjects. Finally, ten subjects confused mental retardation and psychological disturbances--three junior high school subjects, and seven high school students.

In short, a total of 22 confusions between handicaps were observed, and 17 of the 22 involve mental retardation. Mental retardation was confused once with blindness, three times with deafness, three times with orthopedic handicaps, and ten times with psychological disturbances. In contrast, blindness and deafness were seldom confused, and then mainly by the younger children. Orthopedic handicaps were confused with other handicaps only once.

These results supplement the results concerning awareness in several important ways. First, they show that the scalogram analyses reflect only limited information about how hard or easy it seems to be to understand different handicaps. If one were to define "hard to understand" as "easy to confuse with other handicaps," then the concept of mental retardation would emerge as very hard indeed. Psychological disturbance, however, may not appear more frequently

> (What would it be like [to be blind]?)* Darkness... it would be just weird. I don't think I could do it. Well, I think I could. Like, know how to do all this stuff that goes along with it. Like sign language. (Does sign language usually go with blindness?) Yeah. (Why do you need sign language if you're blind?) To communicate with people.

In contrast, the following excerpt shows diffuse entanglement of notions about mental retardation and psychological disturbance:

> (What causes mental retardation?) If they went through a big emotional stress, if something happened really emotional to them, it could make them kind of slow and make them sad and depressed.

In this excerpt, and in other parts of the interview, it is difficult to tell, from one's adult point of view, whether the subject is talking about mental retardation, psychological disturbances, or about both at once. "Confusions," in short, were sometimes instances of the relatively clear-cut mixing up of evidently distinct concepts, and sometimes the expressions of single concepts that melded elements related to separate handicaps.

Awareness of Handicaps in Relation to Sex

There has been considerable speculation and some evidence concerning sex differences in attitudes toward handicapped people. The possibility exists, then, that sex differences might occur in expressed awareness of different kinds of handicaps. For instance, the rather common supposition and finding that girls tend to be more positive in attitude than boys suggests that (a) girls might be more apt than boys to express awareness of handicaps, and (b) that sex differences in expressed awareness might help to explain observed differences in attitudes. Another possibility is suggested by psychoanalytic interpretations of reactions to handicapped people: One might suppose that the different unconscious meanings boys and girls may attach to handicaps could result in selective attention or inattention to particular handicaps, and hence in differences between boys and girls in expressed awareness.

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*Interviewers' questions appear in parentheses.

Data pertaining to minimal awareness and awareness of the five handicaps were examined for sex differences within each age group. Not examined, of course, were data for age groups in which all subjects were either aware or unaware of a handicap, for instance, preschoolers' expressed awareness of psychological disturbances and high school students' awareness of blindness.

Results

Two statistics were used to test for relationships between sex and awareness of handicap in each age group: Fisher's Exact Test and Pearson's *r*. No associations between sex and awareness even approached statistical significance ($p > .05$). The correlations between sex and expressing or not expressing awareness of a handicap, for each age group, were low and were not statistically significant ($p > .05$). In short, there was no evidence at all of a relationship between sex and awareness of handicapping conditions for any age group.

CHAPTER 5. DIFFERENTIATION WITHIN CONCEPTS OF HANDICAPS

Professionals concerned with handicaps and handicapped people make various distinctions that result in complex and differentiated concepts of handicaps. For instance, it is widely agreed that there is an important distinction between congenital and adventitious blindness; different degrees of visual impairment; between neurotic and psychotic problems; and so forth. We shall refer to these distinctions as "key concepts" which differentiate types or degrees within a particular handicap or may be applicable across all handicaps. These are "key concepts" in the sense that they play a special role in systems of related concepts. They are important because they are, to use Flavell's term, "powerful." in that (a) people generally agree that they are central and (b) each of these concepts "makes possible or facilitates the attainment of a number of other important concepts." (Flavell, 1970, p. 988). In this section, we present results indicating the extent to which subjects in different age groups differentiated within and among the handicapping conditions.

Different Degrees of a Handicapping Condition.

The idea that the extent to which one is handicapped varies among handicapped persons is a powerful concept. For instance, to grasp the idea that deafness is not really an absolute is to grasp an idea that may influence one's entire way of thinking about auditory impairment and people with hearing loss. Having begun to think of "deafness" not as a concept that permits an either-or categorization of people, but as a continuum, one asks complex questions about people with auditory impairment. Rather than asking whether or not someone "is deaf," one asks about the extent to which the person has residual hearing, and about other features which differentiate the person's current functional state. The concept of degree of impairment, then, is a key one, and is key not only for deafness, but for other handicaps as well.

Table 5-1 shows the percentages of subjects in each age group discussing a handicap who mentioned that there are different degrees of the handicap. (No results are presented concerning orthopedic handicaps because the interrater reliability for the coding of this variable was unacceptably low.) As the table shows, older subjects made this distinction much more frequently than did younger subjects. Preschoolers and primary-grade children discussing blindness and/or deafness generally spoke of people as blind or not blind (sighted), deaf or not deaf. In contrast, high school students and adults were apt to ask what the interviewer meant, or to point out that *deaf* can mean many things, and so forth.

Furthermore, this concept seemed to be most salient for the older subjects with regard to auditory impairment than with regard to other handicaps: More than half of the high school students and adults raised the issue of different degrees of hearing impairment. Many adults also emphasized the issue of different degrees of psychological disturbances. Considering the frequent mention

Table 5-1

Percentages Of Subjects Mentioning That There Are Different Degrees Of A Handicap

	Age Group				
	Preschool	Primary	Junior High	High School	Adult
Blindness	6.3	7.7	14.3	33.3	36.4
Deafness	0	7.7	9.5	54.2	72.8
Mental retardation	-	10.0	9.5	26.1	36.4
Psychological disturbance	-	-	0	30.4	63.6

Note. Percentages are based on numbers of subjects expressing at least minimal awareness of a handicap, not on total numbers of subjects.

Note. Interrater reliability was unacceptably low for the coding of this variable for orthopedic handicaps.

of different degrees for those handicaps, it is interesting to note the comparatively low frequencies with which the concept of different degrees was mentioned by older subjects for other handicaps.

These results suggest that the important differentiation of different degrees of a handicap may be more salient for some handicaps than for others. Specifically, older subjects seemed to make this distinction with regard to auditory impairment, but seemed not to mention it frequently with regard to blindness or mental retardation.

In interpreting these results, it is important to recall the particular questions subjects were asked in the interview. Subjects were not specifically asked about different degrees of impairment. On the contrary, they were specifically asked about "someone who is deaf, who can't hear at all," and so forth. The interviews were focused on the extreme ends of the continuua of handicaps, partly in order to make topics clear to very young children who might not know labels for handicaps, and partly in order to keep the interviews focused on handicaps rather than, say, on minor visual problems like far-sightedness. Consequently, it is imperative that these results not be interpreted to mean that subjects did not know that there are different degrees of handicaps. Rather, the results seem to indicate the relative salience of this key concept for different kinds of handicaps.

The Congenital-Adventitious Distinction.

For sensory handicaps, especially blindness, the question of whether the handicap is congenital or adventitious, (i.e., acquired following birth), is extremely important since the congenital or adventitious nature of a sensory handicap affects the handicapped person's adjustment and understanding of the world in many ways. Although a somewhat comparable distinction may be applied to other handicaps, it is not clear that such a distinction would really be analogous to that for blindness and deafness.

Table 5-2 shows the percentages of subjects in each age group discussing blindness and deafness who made this distinction in some way. Clearly, older subjects made this distinction very frequently, junior high and primary-grade children rarely, and preschoolers, not at all. The older subjects drew this distinction much more frequently for blindness than for deafness. Older subjects often said something like, "Well, that depends on whether you're born blind..." Very few young subjects said anything like this, and older subjects were much more apt to make such a comment about blindness than about deafness.

In short, adults and high school students seemed to understand and use this distinction more frequently with regard to blindness than with regard to deafness.

Concepts of Types of Handicaps

When subjects discussed people with various kinds of handicaps, which particular types of handicaps did they mention and not mention with regard to each of the handicapping conditions they were asked about?

Table 5-2

Percentages of Subjects Distinguishing Between

Congenital and Adventitous Handicap

	Age Group				
	Preschool	Primary	Junior High	High School	Adult
Blindness	0	3.8	9.5	50.0	63.7
Deafness	0	0	19.1	20.9	36.4

Note. Percentages are based on numbers of subjects expressing at least minimal awareness of a handicap, not on total numbers of subjects.

Orthopedic Handicaps

Table 5-3 shows the percentages of subjects in each age group discussing material related to orthopedic handicaps who referred to two types of orthopedic handicaps: missing limbs or amputation, and serious handicapping conditions like paraplegia and quadriplegia. Clearly, references to these kinds of handicaps were uncommon among preschool and primary-grade children, more common among the junior high group, and quite common among older subjects.

Mental Retardation

Table 5-3 also shows the percentages of subjects in each group discussing mental retardation at all who included in the discussion references to severe or profound mental retardation. (Other subjects discussed either mild or moderate retardation or were vague in references.) Once again, many (63.6%) adults included such references in discussions. In contrast, 21.7% of the high school subjects, 18.6% of the junior high subjects, and none of the primary-grade subjects did so.

Psychological Disturbances

Table 5-3 shows the percentages of subjects in each group discussing material related to psychological disturbances who referred to extreme disturbances: psychosis, bizarre behavior, dramatic cases, hysterical attacks, multiple personality, and such. The table also shows percentages of subjects who discussed only such extremes. These results contrast with those concerning other kinds of handicaps: While junior high students rather

Table 5-3

Percentages of Subjects Mentioning Various Types of Handicaps

	Age Group				
	Preschool	Primary	Junior High	High School	Adult
Orthopedic handicap					
Discusses missing limb	7.7	8.7	19.0	60.8	45.5
Discusses paraplegia, quadriplegia, other extreme handicaps	0	8.7	28.5	56.5	81.9
Mental retardation					
Discusses severe or profound retardation	-	0	18.6	21.7	63.6
Psychological disturbance					
Discusses extreme disturbance	-	-	45.5	69.5	80.0
Discusses extreme disturbance only	-	-	27.3	47.8	10.0

Note. Percentages are based on numbers of subjects expressing at least minimal awareness of a handicap, not on total numbers of subjects.

seldom discussed extreme kinds of orthopedic handicaps and mental retardation, they discussed the extreme kinds of psychological disturbance rather frequently. Furthermore, while only 10.0% of the adults discussed only extreme cases, 47.8% of the high school subjects and 27.3% of the junior high subjects did so.

These data correspond with observations of raw data. Namely, adolescents appeared to be enthusiastic consumers of popularized accounts of mental illness and of dramas featuring people with extreme disturbance. One heard about multiple personalities, horror movie types, and various other bizarre kinds of psychopathology. Our clinical impression was that adolescents frequently conceptualized psychological disturbances as, essentially, something that happens quite outside one's experience in day-to-day life.

Some additional results may clarify this picture. Specifically, 27.3% of the junior high subjects, 17.4% of the high school subjects, and 11.1% of the adults referred only to such instances of dramatically extreme bizarre pathology. That is, references to various kinds of extreme cases seem to peak in adolescence.

In contrast, adults appeared to conceptualize psychological disturbances as a part of day-to-day life, rather than as dramatically distant, foreign events. This integration of concepts of psychological disturbance into concepts of one's own day-to-day life is particularly striking when one examines results concerning a specific statement related to psychological disturbances: that, in one way or another, we are all psychologically disturbed. While 72.7% of the adults said something to this effect, 8.7%

of the high school students, and none of the junior high students did so.

These results suggest that the development of concepts of psychological disturbance follows a pattern of increasing identification. Adolescents beginning to develop concepts of psychopathology often seemed to discuss psychological disturbances as something "out there," something one is unlikely ever to encounter in daily life. Furthermore, they showed no sense of including themselves in concepts of psychological disturbance. During adolescence and adulthood, concepts of psychological disturbance continue to include ideas of extreme pathology, but expand so that these sophisticated adults portray psychological disturbances as a continuum, and portray themselves as belonging on this continuum.

Uses of the Concept of Handicaps

The focus of this study is the development of concepts of different kinds of handicaps, not the development of the concept of handicaps itself. In explaining the nature of the study and in orienting subjects to the interview topics, it was necessary to provide a general definition of what we were going to discuss--people who have a hard time doing things. In obtaining informed consent, in orienting subjects to the topic, in asking about terms, and in asking about particular handicaps, interviewers necessarily provided subjects with clear suggestions about their ideas of the concept of handicaps, whether or not that term was used. In order to be clear about what we wanted to discuss, we inevitably told subjects a good deal about what we considered to be content-relevant to this topic. Having told subjects, we were, of course, unable to find out the content they themselves would have selected or omitted.

The interviews did, however, provide some information relevant to the general topic of the development of a general concept of handicaps. Some of this information is simply impressionistic. It is included mainly for the benefit of researchers considering projects similar to this one. In addition, some information was coded about subjects' generalization of interview topics to new areas.

First, uses of the words handicap and handicapped varied widely. One preschooler who had watched the Feeling Free series used the term and defined it as referring to people who can't do something. Analysis of the use of the word indicated that it was a clear preschool equivalent of our own use of the word. A common use, however, was as a general term for orthopedic handicaps only. It is our impression that had we simply asked about "handicaps," we would probably have heard mainly about orthopedic handicaps.

Second, it is not clear that subjects who discussed mental retardation and psychological disturbances in response to our questions would spontaneously have classified these as handicaps. Further research would be necessary to examine older subjects' spontaneous lists of conditions that are and are not handicaps. As noted, the researcher proposing such a study would be advised not to depend upon the word handicap to convey the meaning of the concept.

Third, there are many kinds of handicaps about which interviewers did not ask. Given the limitations of time and the scope of the study, it was impossible to explore concepts of epilepsy, chronic illness, and other handicaps. Some information is available, however, on whether or not subjects extended the general topic of the interview to these other areas.

Specifically, near the end of the interview, subjects were asked whether there was anything else "like this" that we had not yet talked about. Subjects were coded as offering appropriate new content if they mentioned physical handicaps like epilespy, social-cultural differences (e.g., "racism,") or anything else that could be considered in any way an appropirate generalization of the topics covered in the interview. The only responses not coded as "new" in this way were the simple repetitions occasionally offered by very young children, (e.g., the preschooler who had already discussed blindness, but then mentioned it as if it were entirely new).

Young children seldom extended the focus of the interview to new content: Only one preschool and two primary grade children did so. In contrast, 52.4% of the junior high subjects, 63.6% of the high school subjects, and 54.5% of the adults did so.

The only particular handicap mentioned frequently but not covered by interview questions was speech difficulty apart from that related to deafness. Occasional mention was made, mainly by older subjects, of learning disabilities, alcoholism, drug abuse, and aphasia.

CHAPTER 6. TERMINOLOGY

The special terms subjects used to discuss handicaps consisted of labels for handicaps, names of devices for coping with handicaps, names of particular syndromes, and a variety of other special terms. Some of these terms are applicable only to specific handicaps (e.g., Braille), while others may be used in relationship to many handicaps (e.g., birth defect) or in relation to handicaps that are not a focus of attention in this study. Other terms are offensive epithets and phrases related to handicaps (e.g., mental as in "He's mental").

In this chapter, results are presented first, about uses of technical terms, and second, about uses of offensive terms.

Technical Terms

The terms subjects used to talk about handicaps were classified into six categories: terms mainly about (a) blindness, (b) deafness, (c) orthopedic handicaps, (d) mental retardation, (e) psychological disturbances, and (f) miscellaneous terms about other handicaps and terms not specific to particular handicaps. Lists of terms counted as belonging and not belonging in each category appear in the Coding Manual section of this report. In general, a term was counted as a technical term only if it could be called in any way "technical." Specifically, descriptions were not counted as special terms. For example, in this scheme, sign language is a technical term, but talks with his *hands* is not. *Blind* is a technical term, but *can't see* is not. Phrases in general use to refer to nonhandicapping conditions were not counted,(e.g., *glasses*, *having problems*, *ear ache*, and such). In order to be counted, terms need not be highly technical. For instance, common words like *blind*, *cane*, *neurotic*, were counted. If a subject used a term in relation to more than one handicap, and if the term was not listed in the Coding Manual as a "miscellaneous" term, the term was counted separately for each handicap. For example, if a subject mentioned that blind people use "canes," and that orthopedically handicapped people use "canes," the first use was counted under Blindness terms, the second, under Orthopedic Handicap terms. Only the first use of the term under each heading was counted. For instance, the word *blind* was counted only once, not each time the subject uttered the word.

There is a specific relationship between the coding of terms and the coding of awareness of handicaps that should be noted. The use of a label for a handicap was considered to be an expression of awareness that a handicap exists. For instance, using the word *deaf* indicates awareness that deafness exists, provided that the use is in any way appropriate.

Finally, terms were not counted if interviewers had used the terms. Specifically, in order to convey the idea of orthopedic handicaps to children, it was effective to ask, "Do you know anyone who uses crutches or a wheelchair?" as a prompt. Consequently, the words *crutches* and *wheelchair* were often used by interviewers. These particular words were not counted for any subjects.

Interview Methods

The first portion of the interview was devoted to a brief elicitation of labels. Interviewers asked for words to talk about "people who can't see," and so forth. Interviewers prompted subjects for words besides those they initially provided (e.g., "Any other words?" "What would a doctor call that?"). During the portions of interviews devoted to discussing particular handicaps, interviewers also prompted for technical words when this was appropriate. For example, if a subject mentioned someone with what seemed to be cerebral palsy, the interviewers asked whether there was a special name for the handicap the subject was describing. If the subject was clearly talking about sign language, the interviewers tried to prompt for the phrase *sign language* (e.g., "What do you call that?"). The words counted, then, were those that occurred at any point in the interview, although the initial portion was explicitly devoted to eliciting labels.

Results. Tables 6-1 through 6-6 show mean numbers of terms used by subjects in each group. When appropriate, means are presented separately for all subjects in a group and for the subjects expressing at least minimal awareness the handicap exists. The reader who is simply interested in, say, how many terms were used by preschoolers to talk about blindness, on the average, should examine the entries for "All Preschoolers," while the reader interested in results controlling for expressed awareness should examine the entries for subjects expressing awareness.

Table 6-1

Mean Number of Blindness Terms

Group	n	Mean	SD	Minimum	Maximum
All preschoolers	21	0.4	0.6	0	2
Preschoolers aware of Blindness[a]	16	0.6	0.6	0	2
Primary	26	1.0	0.5	0	3
Junior high	21	2.0	1.0	1	4
High school	24	2.8	1.4	1	6
Adult	10[b]	5.4	2.8	1	11

[a] Preschoolers expressing at least minimal awareness of blindness

[b] Data missing for one subject

Table 6-2

Mean Number of Deafness Terms

Group	n	Mean	SD	Minimum	Maximum
All preschoolers	21	0.2	0.4	0	1
Preschoolers aware of deafness[a]	19	0.3	0.5	0	1
Primary	26	1.3	0.5	0	2
Junior high	21	2.6	1.2	1	5
High school	24	3.4	1.1	2	5
Adult	11	5.2	2.1	2	9

[a] Preschoolers expressing at least minimal awareness of deafness

Table 6-3

Mean Number of Orthopedic Handicap Terms

Group	n	Mean	SD	Minimum	Maximum
All preschoolers	21	0.1	0.2	0	1
Preschoolers aware of orthopedic handicaps[a]	13	0.1	0.3	0	1
All primary	26	0.3	0.7	0	3
Primary school students aware of orthopedic handicaps[a]	23	0.4	0.7	0	3
Junior high	21	1.9	1.4	0	4
High school	24	3.6	2.2	0	8
Adult	11	5.6	2.8	2	11

[a] Students expressing at least minimal awareness of orthopedic handicaps

Table 6-4

Mean Number of Mental Retardation Terms

All preschoolers[a]	21	-	-	0	0
All primary	26	0.2	0.4	0	1
Primary school students aware of mental retardation[b]	10	0.4	0.5	0	1
Junior high	21	0.8	0.8	0	2
High school	24	1.4	1.4	0	6
Adult	11	4.0	2.7	1	9

[a] The one preschooler minimally aware of this handicap used no terms.

[b] Students expressing at least minimal awareness of mental retardation.

Table 6-5

Mean Number of Psychological Disturbance Terms

Group	n	Mean	SD	Minimum	Maximum
All junior high	21	0.4	0.6	0	2
Junior high students aware of psychological disturbances[a]	11	0.7	0.7	0	2
High school	24	1.4	1.1	0	4
Adults	11	4.0	2.7	1	4

[a] Students expressing at least minimal awareness of psychological disturbances.

Table 6-6

Mean Number of Miscellaneous Handicap Terms

Group	n	Mean	SD	Minimum	Maximum
Primary	26	0.04	0.20	0	1
Junior high	21	1.29	1.31	0	5
High school	24	2.58	1.95	0	7
Adult	11	2.27	2.20	0	7

For all types of technical terms, a similar picture emerges. With increasing age, subjects used, on the average, more terms about each handicap. Furthermore, with increasing age, there is increasing variation. The average number of terms used appears not to level off during the high school years. Rather, for all types of terms except the miscellaneous ones, there is a rather sharp increase between the high school and adult groups.

There is a parallel between results concerning terms and those concerning patterns of expressed awareness in the sense that subjects generally used more terms for sensory and physical handicaps than for mental and emotional handicaps.

The only particularly striking or surprising result observable in these data concerns terms related to psychological disturbances. Specifically, as noted above, "technical" terms counted were not always "technical" in a formal sense. Many terms counted as "Psychological Disturbance" terms are, in fact, a part of the general vocabulary of many educated people. The words _neurotic_, _hysteria_, _repressed_, _phobia_, _insane_, and _senile_ are in common use, one would suppose, much more than are technical terms related to other handicaps. Many words that originated as technical terms related to psychopathology have become terms for talking about people. Indeed, in attempting to avoid a distortion of results, we carefully excluded from the coding extremely loose uses of words like _paranoid_ and _mania_. It is our impression that the inclusion of these totally nontechnical uses would not have changed results notably. Rather, the data seem accurately to reflect the use of small vocabularies for discussing psychological disturbances.

Offensive Terms

Besides using special technical vocabularies for discussing handicaps and handicapped people, subjects sometimes used offensive terms as well. These offensive terms are "offensive" in the sense that handicapped people find them so. It is important to note, however, that these terms were used in some rather distinct ways. While some terms were used simply as derogatory epithets, others were used without any apparent offense intended. Furthermore, while some were simply used, others were explicitly disowned. That is, some subjects explicitly said that they found some terms offensive.

In order to take these distinctions into account, three separate types of offensive terms were examined: (a) terms that are considered offensive, but that were used without apparent intent to offend, (b) epithets, handicap-specific derogatory terms, and other offensive terms used without qualification, and (c) epithets, handicap-specific derogatory terms, and other offensive terms that a subject explicitly disowned.

Offensive terms used without evident awareness of offensiveness include terms like the following: _deaf-and-dumb_, _Mongoloid_, _a mongol_, _insane asylum_, _deaf-mute_, and the out-dated _moron_, _imbecile_, and _idiot_. Other such terms were uses of certain nouns to refer to handicapped people, for instance, _a cripple._ These terms were used in a naive rather than offensive way. One had the sense that subjects using terms of this type simply did not understand that these terms are now considered offensive.

Offensive terms included a number of epithets and perjoratives that have meaning related to handicaps, as well as certain stereotyped phrases: *spastic*, *mental*, *emotional cripple*, *stone deaf*, plus words like *moron*, *imbecile*, and *idiot*, when used as perjoratives rather than used as old-fashioned diagnostic labels. The term *retard* is an offensive term of this type and was counted as an offensive term if subjects used it before the interviewer asked about the term.

Finally, disowned offensive terms include any of the above terms that a subject explicitly disowned. For instance, a subject might say that other people call mentally retarded people *Mongoloid* but that he or she objects to this term, or might say that peers use the word *spastic*, but that he or she does not like the word.

Results

Naive Uses. Offensive terms were used quite frequently by subjects who evidently did not realize the terms are considered offensive. As Table 6-7 shows, a few preschoolers, no primary grade children, 39.1% of the junior high group, 70.8% of the high school group, and 45.4% of the adults used one or more offensive terms in this naive way. The mean number of these terms used by subjects in each group is as follows: preschoolers,

Table 6-7

Percentages of Subjects in Each Group Using

One or More of Three Types of Offensive Terms

Type of Term	Age Group				
	Preschool (n=21)	Primary (n=26)	Junior high (n=21)	High school (n=24)	Adult (n=11)
Offensive term used naively, no offensive intent	9.9	0	38.1	70.8	45.4
Offensive term used with no qualification	0	0	33.3	54.2	54.5
Offensive term mentioned and disowned: "I object to..."	0	0	9.5	25.0	18.2

0.10 (SD = 0.30); primary grade, 0; junior high, 0.52 (SD = 0.81); high school, 1.0 (SD = 0.83); adults, 0.64 (SD = 0.81).

In short, the peak use of offensive terms without any evident intent to be offensive occurred in the high school group. Few younger children used terms in this way, a fairly large number of junior high and adult subjects did so, but many of the high school students did so.

Simply Offensive Terms. As Table 6-7 shows, offensive terms were used in an unqualified way by about one-third of the junior high students and about one-half of the high school students and adults. The children in the younger groups did not use these terms. The mean number of these terms used by junior high students was 0.43 (SD = 0.68); by high school students, 0.83 (SD = 1.01); and by adults, 0.82 (SD = 1.17). Whether one looks at numbers of subjects using these terms or at mean number of terms, the use of offensive terms seems to appear in the junior high group, to increase by the high school years, then to level off.

Disowned Terms. As Table 6-7 shows, mentioning and disowning offensive terms was notable mainly in the high school group, although it occurred occasionally in the junior high and adult groups as well. The mean number of these disowned terms was notable only for the high school group (M = 0.46, SD = 0.98), smaller for junior high (M = 0.10, SD = 0.30) and adult (M = 0.18, SD = 0.41) groups.

Discussion

The context in which these data were gathered and the nature of the population studied should both be noted in interpreting results related to offensive terms. Specifically, these data were collected during interviews in school (for all subjects except adults). This context might be expected to evoke a minimal amount of use of offensive terms. Interviewers were clearly people who would not have approved of the use of offensive terms about handicapped people. Furthermore, the subjects in this study are not representative of the general public. Rather, they are well-educated people and the children of such people living in prosperous suburbs. These subjects, then, are people whom one might expect to use few offensive terms in comparison with those used by the general public. They were also interviewed in a situation that might be expected to minimize the number of offensive terms that would be used.

The context of data collection and the nature of the subject population, plus an interaction of these factors, might be expected to result in very little use of offensive terms. It is somewhat surprising, then, to find that offensive terms, especially plainly offensive terms used with no qualification, were mentioned at all.

Several questions, then, arise about the results concerning the unqualified use of offensive terms. First, to what extent did subjects censor or edit their uses of terms in the interview situation? Did such censoring occur at different rates in different age groups? For instance, were junior high, high school, and adult groups equally responsive to the demand characteristics of the situation, or did some groups respond more than others to a covert message to avoid offensive terms? Second, did subjects fully understand that terms classified in coding as "offensive" are considered offensive?

With regard to the effects of demand characteristics on uses of offensive terms, data are simply unavailable. It seems likely that there are situations in which these same subjects may have used more and fewer such terms than were used in the interviews. There are no comparable studies to suggest precisely how this interview situation might have affected these results. The one similar study provides similar results. Specifically, Clark (1964) interviewed fourth- and fifth-graders about educable mentally retarded children attending special classes in rooms adjacent to subjects' classrooms. These subjects seldom used derogatory terms to talk about the children in the special classes, although a few such terms were used. Clark's subjects, like the junior high school subjects in this study, used such terms, but did so rather infrequently.

Subjects clearly used some terms that are offensive to handicapped people, but did so without evident understanding that these terms are considered offensive. The possibility exists that some of the terms counted as "offensive" (in an unqualified way) were also used without a full appreciation of the connotations of the words. It is certainly possible that some subjects did not understand just how offensive it is to use phrases like emotional cripple or perjoratives like mental.

It may be, then, that the results presented here underrepresent "naive" uses of offensive terms. Whether or not this is the case, it is clear that such naive uses were quite common among subjects in the older three groups.

These results are of considerable interest because of the implications the results have for social interactions among handicapped and nonhandicapped people. Specifically, notable proportions of subjects, particularly older subjects, seem to be highly vulnerable to giving unintentional offense to handicapped people. These subjects were evidently unaware that to use a phrase like deaf-and-dumb or to refer to someone as a cripple is offensive to many people. One has the clear impression in listening to many subjects use such terms that this use is based on simple ignorance of conventions about terms that are and are not acceptable.

These results have a clear implication for educational intervention. Namely, nonhandicapped people have a need and right to be informed about terms that are and are not offensive to handicapped people. Even the well-educated subjects in this study seemed often ignorant about the social meanings of terms they used. Clearly, educational intervention is needed to inform these people of the social meaning of terms.

Offensive Terms: The Word "Retard." Researchers investigating attitudes toward mentally retarded people have shown considerable interest in the effects of various labels on the positive or negative direction of attitudes (e.g., Gottlieb, 1974, 1975). The topic of labeling in general and uses of particular labels has been debated by researchers, parents, and educators without any general conclusion.

One particular aspect of this broad area of both research and controversy concerns the use of derogatory terms. That is, the general issue of whether to label mentally retarded children in any way may be broken down into a number of separate issues. One of them is the problem of derogatory labels. Unlike the general labeling issue, this problem is not the subject of debate over policy. Name-calling is one variety of labeling which has no advocates. Researchers interested in the effects of labeling in general have, however, speculated about whether or not derogatory terms may serve as informal, quasi-diagnostic labels, and have otherwise speculated about the meanings and effects of these terms.

In order to explore issues related to the use of these derogatory terms, we included in the interview, as the final question, the following: "Have you ever heard anyone use the words retard or a retard?" (If so) "What does that mean?"

Because this was the final question on the interview schedule, and because this topic was not the main focus of the study, this question was occasionally omitted from interviews.

For instance, some preschoolers were not asked the question because they were unable to attend for a sufficiently long period of time. Time pressure resulted in the omission of the question from some interviews with older children. Data reported, then, pertain only to subjects who were asked the question.

Familiarity. Of the 14 preschoolers asked about these terms, none indicated any familiarity. In contrast, 7 of the 19 primary grade subjects (26.9%), all 18 of the junior high school subjects (100.0%). 15 of the 16 high school subjects (93.8%), and 8 of the 11 adults (72.7%) did so. As these data suggest, and as interviews made clear, these terms seemed to be most familiar to adolescents. While the preschoolers and some primary grade children simply gave blank glances of nonrecognition in response to the questions, many adolescents not only showed familiarity with the terms, but discoursed at length about the referential and social meanings of the terms. It is on these meanings that the remainder of this discussion focuses.

To the researcher interested in labeling, or to the adult concerned with mental retardation, it is very difficult to think of the word _retard_ as a possible nonderogatory term for a mentally retarded person. This use of the term did, however, occur. A small number of primary grade (_n_ = 1), junior high (_n_ = 1), high school (_n_ = 3), and even adult (_n_ = 2) subjects seemed to think of the term _retard_ as simply meaning "mentally retarded." While to the professional, the derogatory meaning of the term is very strong, this meaning was evidently not shared by all subjects.

Similarly, to the professional, particularly the professional who has been concerned with labeling, the term retard is inseparable from meaning related to mental retardation. Adolescent subjects sometimes made a particular point of saying that the term does not mean mentally retarded, that people do not use it to suggest anything related to mental retardation, and so forth (33.3% of the junior high and 60.0% of the high school students discussing the term said something to this effect). The general tone of these claims was that the similarity between the words retard and retarded was a misleading cue about meaning. That is, while a few subjects used the term as if it simply meant retarded, others claimed that the term had no essential meaning that has anything to do with mental retardation.

When asked what the term does mean, subjects gave a variety of responses. The most common type was related to social awkwardness: The term means "weird," "unpopular," "strange," or something else vaguely related to social difference from the norm. This kind of response was offered by 42.9% (n = 3) of the primary grade subjects familiar with the term, 55.6% of the junior high subjects, 66.7% of the high school subjects, and by one adult subject.

Another common definition of the meaning of the term was something like "dumb" or "stupid." This kind of meaning was offered by 2 of the 7 primary grade children discussing the term (28.6%); by 38.9% of the junior high school subjects; 53.3% of the high school subjects; and by one adult.

These social-adaptational and cognitive definitions of the term coincide somewhat with professional definitions of mental retardation and with the definitions of mental retardation used by many subjects in this study (see Chapter 13). In short, although many subjects explicitly denied that the term retard has any referential meaning related to mental retardation, many subjects defined the meaning of the term in a way that coincides with their own and with some aspects of formal definitions of mental retardation. The term, then, often seemed to be used in reference to characteristics of mentally retarded people whether or not the person called "retard" was or was not considered mentally retarded.

Use of the Term. Besides discussing the referential meaning of the term, subjects also discussed how the term is used. In particular, adolescents sometimes said explicitly that the term is used for joking (33.3% of the junior high and 33.3% of the high school subjects discussing the term). In addition, the term was sometimes described as used to label discrete behaviors (1 junior high subject, 33.3% of the high school subjects). Only one subject, a junior high school student, described the term as anything even remotely like an enduring label. The term was generally described as a joking one for use in reference to particular behaviors or situations.

CHAPTER 7. EXPLANATIONS OF THE CAUSES OF HANDICAPS

Subjects were specifically asked what causes each handicap discussed. Subjects were also prompted to supply additional explanations and clarifications (e.g., "Anything else?" "Could you be more specific?" "What kind of illness?" and so forth). The coding of explanations of causes was designed to record information given in response to these questions as well as explanations given at other points during the interviews. For example, if a subject did not refer to diabetes when asked about the causes of blindness, but happened to mention at some later point in the interview that diabetes can cause blindness, then the reference to diabetes was coded nonetheless. In short, the coding was performed so as to reflect as much as possible about the subject's explanations, regardless of when during the interview the subject mentioned information.

The coding of causes of each handicap was performed using a variety of mainly dichotomous variables (e.g., whether or not the subject mentioned that spinal injury can cause orthopedic handicaps). Besides coding in this "mentions, does not mention" way, coding was designed to flag mentions that were outstanding in either of two ways: particularly concrete or unrealistic, and particularly mature or informed. For example, these special "flag" codes were used to call attention to wildly unrealistic explanations of causes of handicaps. If one were coding statements to the effect that an illness can cause blindness, one would use a special code for a statement that, say, a cold causes blindness. At the opposite extreme, if one were coding statements to the effect that watching television and similar activities cause blindness, and one encountered a subject who gave a realistic explanation of how television might cause visual impairment, such a realistic explanation would be flagged by means of a special code.

The particular explanations of the causes of each handicap included in the coding system were chosen on two bases: On the basis of explanations offered in pilot interviews and on the basis of what are, in fact, common causes of handicaps. For instance, the decision to code references to how watching television causes blindness was based on the occurrence of this explanation in the data, whereas the decision to code explanations related to perinatal events was included to indicate congenital causes.

So far as was possible, similar categories of causes were coded for each separate handicap, and were defined and coded in comparable ways. For instance, the coding of explanations that a handicap occurs because one is "born that way" was similarly performed for each separate handicap. Some explanations, of course, were unique to particular handicaps. For example, the statement that orthopedic handicaps can be caused by spinal injury has no clear analogue in explanations of causes of other kinds of handicaps.

The handicap for which it was most difficult to construct categories of causal explanation was psychological disturbance.

The difficulty of categorizing explanations of why people become psychologically disturbed has many sources. The most straightforward explanation of this difficulty is simply that pilot data were mainly from young subjects who seemed unaware of the handicap and who offered no explanations of cause. The Cumming and Cumming (1957) study of adults, however, was available, and, furthermore, pilot data were informally collected on adult explanations. Nevertheless, as noted later, the system of categorizing explanations of the causes of psychological disturbances is less satisfactory than are those for the other handicaps, mainly because this system relies very heavily on a "miscellaneous" category.

Realistic and Unrealistic Explanations

When coding explanations of the causes of handicaps, it is sometimes very difficult to classify explanations as clearly possible or impossible. This difficulty arises partly because there are many causes of handicaps, some rare and some common. A subject who offers an uncommon cause as an explanation without any qualification still offers a possible explanation. The overall nature of the subject's explanation of the causes of a handicap, then, may be improbable, while for particular cases, the subject may be right. For instance, if a child says that looking at the sun causes blindness, the child is right in the sense that looking at the sun can cause blindness. On the other hand, looking at the sun is not a common cause of blindness. To offer this explanation as the only cause of blindness, or as one of several such explanations, is to be "realistic" in a limited and particular way.

It is important to note, then, that responses coded and referred to as "impossible," or "highly improbable," are responses that were extremely unlikely or impossible. All explanations were coded as possibly correct unless they were clearly impossible or extremely improbable. For example, the idea that a "poke in the eye" causes blindness was coded as possible, even though subjects offering this explanation seldom explained how a poke in one eye impairs vision in both eyes.

Finally, since professionals are in widespread disagreement about the causes of many kinds of psychological disturbances (e.g., early infantile autism, schizophrenia), it was impossible to categorize explanations of causes as probable or improbable. To the extent the coding scheme presents an implicit theory of causation, this theory is a multicausal one, in which very nearly any cause may, in the proper circumstances, be a possible cause of some kind of psychological disturbance. The reader who considers some of the categories to be more accurate explanations of cause than other categories should examine the tabled results and draw his or her own conclusions about the realistic nature of subjects' explanations.

Results

Tables 7-1 through 7-6 show percentages of subjects in each age group discussing material relevant to each handicap who mentioned various causes of the handicap. The percentages in the

Table 7-1

Explanations of the Causes of Blindness: Percentages of Subjects Mentioning Various Causes

Cause	Age Group				
	Preschool (n=16)	Primary (n=26)	Junior High (n=21)	High School (n=24)	Adult (n=10[a])
Look at the sun--as routine	6.3	7.7	9.5	8.3	0
Look at the sun--qualified, explained as unusual	0	7.7	9.5	8.3	10.0
Injury to a specified part of the eye	0	0	4.8	4.2	60.0
Psychological cause (e.g., hysteria)	0	0	0	4.2	0
Physical neglect after the perinatal period	0	0	0	4.2	20.0
Birth defect, heredity, congenital	0	3.8	14.3	50.0	80.0
"Born that way"	0	15.4	61.9	66.7	50.0
Perinatal event	0	0	0	12.5	30.0
Illness--general ("an illness")	0	3.8	14.3	25.0	10.0
A specified illness	0	0	9.5	37.5	40.0
"Something happened" (e.g., "just went blind")	6.3	3.8	14.3	12.5	20.0
Something happened to....(the eye[s])	0	0	28.6	25.0	20.0
Physical trauma to the eye(s)	18.8	15.4	47.6	54.2	60.0
General trauma, not eye-specific	6.3	3.8	47.6	75.0	80.0
Miscellaneous other cause(s)	0	7.7	9.5	16.7	10.0

Note. Percentages are based on numbers of subjects expressing at least minimal awareness of blindness.

[a] Data missing for one adult.

Table 7-2

Explanations of the Causes of Deafness: Percentages of Subjects Mentioning Various Causes

Cause	Age Group				
	Preschool (n=19)	Primary (n=26)	Junior High (n=21)	High School (n=24)	Adult (n=11)
Noises--mentioned in realistic way	0	0	0	25.0	18.2
Eardrum injury, injury to specific part of ear	0	3.8	14.3	16.7	54.5
Birth defect, heredity	0	0	14.3	33.3	81.8
"Born that way"	0	15.4	47.6	25.0	18.2
Perinatal event	0	0	0	4.2	0
General illness	0	3.8	33.3	25.0	45.5
A specific illness	0	0	4.8	8.3	45.5
Vague "something happened"	0	11.5	14.3	4.2	0
"Something happened to...(the ear[s])"	0	0	19.0	12.5	0
Trauma to ear (e.g., pokes)	0	11.5	38.1	41.7	18.2
General trauma, event (e.g., accidents)	0	0	9.5	58.3	45.5
Volition-attention	0	0	0	4.2	27.3
Neglect in post-natal period	0	0	0	0	0

Note. Percentages are based on numbers of subjects expressing at least minimal awareness of deafness.

Table 7-3

Explanations of the Causes of Orthopedic Handicaps: Percentages of Subjects Mentioning Various Causes

	Age Group				
Cause	Preschool (n=13)	Primary (n=23)	Junior High (n=21)	High School (n=23)	Adult (n=11)
Injury to back, spinal injury	0	0	14.3	30.4	72.7
Psychological cause	0	0	0	13.0	9.1
For attention, deliberate	0	0	0	4.3	0
Physical neglect after perinatal period	0	0	0	8.6	0
Birth defect, heredity, congenital	0	0	9.5	43.5	72.7
"Born that way"	0	13.0	33.3	30.4	18.2
Perinatal event	0	0	4.8	4.3	0
Illness--vague ("get sick," "illness")	0	4.3	9.5	8.7	9.1
Specific illness(es)	0	4.3	38.1	65.2	72.7
Trauma to part(s) of body related to handicap	0	17.4	52.4	34.8	45.5
General trauma ("an accident")	7.7	21.7	66.7	82.6	90.9

Note. Percentages are based on numbers of subjects expressing at least minimal awareness of orthopedic handicaps.

Table 7-4

Explanations of the Causes of Mental Retardation: Percentages of Subjects Mentioning Various Causes

Cause	Age Group Primary (n=10)	 Junior High (n=21)	 High School (n=23)	 Adult (n=11)
Child abuse	0	4.8	4.3	0
For attention	0	4.8	0	0
Physical neglect--postnatal	0	0	0	9.1
Birth defect, heredity	30.0	23.8	52.2	100.0
"Born that way"	40.0	52.4	56.5	9.1
Perinatal event	0	0	8.7	36.4
Illness of the mentally retarded person--"get sick"	0	4.8	8.7	18.2
Illness of the mentally retarded person--a specific illness	0	0	0	36.4
"Something happened" (e.g., "just got retarded")	0	9.5	8.7	0
Something happened to... (the head, thinking)	10.0	23.8	17.4	0
Physical injury (accidents) causing damage--general	0	14.3	13.0	36.4
Physical injury causing damage to head, brain	0	4.8	17.4	9.1
Miscellaneous other causes (possible)	0	0	4.3	27.3
Psychological-emotional	0	9.5	13.0	9.1
Cultural-familial	0	9.5	13.0	36.4

Note. Percentages are based on numbers of subjects expressing at least minimal awareness of mental retardation.

Table 7-5

Explanations of the Causes of Psychological Disturbance: Percentages of Subjects Mentioning Various Causes

	Age Group		
Cause	Junior High (n=11)	High School (n=22)	Adult (n=9)
Physical child abuse	9.1	22.7	11.1
How emotions are handled	9.1	31.8	33.3
Lack of will power; gaining attention	9.1	13.6	22.2
Birth defect, genetics, heredity	0	0	44.4
"Born that way"	9.1	13.6	33.3
Physical illness of the handicapped person	0	0	11.1
"Something happened" (e.g., "just went crazy")	9.1	0	11.1
Something wrong with the mind, brain, etc.	0	0	11.1
Disturbances in relationships with peers	9.1	36.4	11.1
Parental emotional maltreatment in early childhood	9.1	31.8	22.2
Parental emotional maltreatment not specific to early childhood	18.2	27.3	33.3
Early childhood emotional trauma: a specific traumatic event	0	4.5	11.1
Emotional trauma not early childhood-specific: a specific traumatic event	0	9.1	11.1
Faulty communications, faulty relationship patterns	9.1	31.8	44.4
Social conditions (e.g., poverty, divorce rate)	0	13.6	11.1
Stress, tension of today's world	9.1	18.2	44.4
Personality trait of handicapped person	36.4	18.2	0
Other causes	9.1	54.5	55.6

Note. Percentages are based on numbers of subjects expressing at least minimal awareness of psychological disturbance.

Note. Preschool and primary school subjects did not discuss

Table 7-6

Percentages of Subjects Offering Impossible or Highly Unrealistic Explanations of the Causes of Handicaps

Causes of Handicap	Age Group				
	Preschool	Primary	Junior High	High School	Adult
Blindness					
Television, looking at lights, studying too much	0	30.8	0	12.5	0
Eye-specific injury	0	0	4.8	0	0
Congenital	0	0	0	4.2	0
Miscellaneous other	31.3	3.8	4.8	4.2	0
Illness	0	0	0		10.0
General trauma	0	0	0	4.2	0
Deafness					
Loud noises unlikely to cause deafness	0	30.8	14.3	12.5	0
Congenital	0	0	0	4.2	0
Trauma to ear	5.3	0	0	0	0
Orthopedic handicaps					
Birth defect, congenital	0	0	0	4.3	0
General trauma	7.7	8.7	0	0	0
Mental retardation					
Birth defect, congenital	0	0	4.8	0	0
Other	0	0	0	13.0	0

Note. Percentages are based on numbers of subjects expressing at least minimal awareness of a handicap.

tables are based on those subjects who showed at least minimal awareness of the handicap, rather than on total numbers of subjects.

Preschoolers' Explanations of Causes

Blindness. The preschool-age subjects, as a group, offered few explanations of the causes of blindness. As discussed elsewhere (Conant, & Budoff, 1979), the preschoolers seemed to have very little interest in the causes of blindness, and responded to questions about the causes of blindness with little display of curiosity and with few suggestions about why people might be unable to see. The most frequent category of explanation used by preschoolers was a miscellaneous category of impossible or highly unlikely causes. Responses in that category included, for instance, the notion that a failure to eat one's carrots causes blindness, and the idea that a man became blind because he ate too much food. (31.1% of the preschoolers discussing blindness at all offered explanations in this category.) Some preschoolers (18.8% of those discussing the topic) mentioned physical trauma to the eye, such as pokes in the eye. Occasional preschoolers mentioned looking at the sun (6.3%), general trauma not specific to the eyes (6.3%), or gave a vague explanation categorized as "something happened" (6.3%).

Deafness. Somewhat surprisingly, since more preschoolers showed at least minimal awareness of deafness than of blindness, even fewer explanations of the causes of deafness were offered than of the causes of blindness. No preschoolers were coded as mentioning any possible causes of deafness, while one child offered a highly improbable explanation related to trauma to the ear. Preschoolers exhibited little interest in the causes of deafness, and, clearly, had practically nothing to say about why people might become deaf.

Orthopedic handicaps. Once again, there was little interest in the causes of this handicap, and few explanations. The only coded explanations were of the "general trauma" variety, that is, trauma not specific to the part of the body involved in the handicap (e.g., "an accident" rather than a specific reference to having one's leg injured by a car). One such explanation was judged to be possible, the other not.

Other handicaps. Only one preschooler mentioned anything even marginally related to mental retardation, and none discussed psychological disturbances at all. The one preschooler showing even minimal awareness of mental retardation offered no explanations of cause.

Primary-Grade Subjects' Explanations of Causes

Blindness. In contrast to the preschoolers, the primary-grade subjects offered a comparatively wide variety of possible and impossible explanations of the causes of blindness. The most common explanation offered by primary grade children was one classified as "impossible," namely, television-related trauma and similar explanations, such as looking at flashlights (30.8% of primary-grade subjects offered an explanation in this category).

Only one subject in this group offered any other "impossible" explanation, one classified in the miscellaneous category used by a rather high (31.3) percentage of the preschoolers.

The explanations of the causes of blindness classified as possible occurred rather infrequently for children in this age group, but the group as a whole, nonetheless, offered a considerably wider range of explanations than did the preschoolers. Specifically, 15.4% mentioned causes coded as "physical trauma to the eyes" (e.g., pokes) and "born that way" (i.e., the child said "born that way" or "born blind"). A few subjects (7.7%) mentioned looking at the sun as if this were a common or routine cause of blindness, while a few (7.7%) provided this explanation with some appropriate qualification. Occasional vague mention was made of illness (3.8%), "something" happening (3.8%), general trauma not specific to the eyes (3.8%), and miscellaneous other possible causes (7.7%).

Deafness. Unlike the preschoolers, who showed virtually no interest in the causes of deafness, the primary-grade subjects sometimes offered explanations; some were at least willing to speculate upon the topic.

The most frequently offered explanation of how people become deaf was an impossible one. Specifically, 30.8% of the primary-grade subjects offered some explanation related to loud noises, and did so in a way that was judged to be highly unlikely to cause deafness (e.g., loud music, which can impair hearing, but may be considered a possible explanation of the cause of deafness only in very special circumstances).

A few primary-grade subjects mentioned that one may be "born deaf" (15.4%). A few (11.5%) mentioned "something" unspecified happening, and a few (11.5%) mentioned trauma to the ear. Finally, one child mentioned illness in a general way (i.e., did not name a specific illness), while one referred to eardrum injury.

Orthopedic handicaps. Primary-grade subjects' explanations of the causes of orthopedic handicaps were both more plentiful and more specific than those of the preschoolers. The most common explanation was general trauma; 21.7% of these subjects mentioned car accidents and other kinds of trauma in a realistic way, while 8.7% mentioned such events in a way that was judged highly unlikely to cause orthopedic handicaps. Furthermore, 17.4% mentioned trauma to specific parts of the body (i.e., having a leg injured in a car accident rather than the vague "accident"). The "born that way" explanation offered by children in this age group for blindness and deafness was also offered for orthopedic handicaps; 13.0% of these children gave such an explanation.

Finally, one vague mention was made of illness, and one mention of a specific illness.

Mental retardation. None of the 10 primary-grade children discussing mental retardation at all offered impossible explanations of causes. Of these 10 children, 4 mentioned that one may be "born retarded" or "born that way"; 30% mentioned some cause related to heredity or congenital factors other than the vague "born that way"; while one child gave an explanation categorized as "Something happened to _______" (i.e., "something happened to the mind" or "brain").

Junior High School-Age Subjects' Explanations of Causes

Blindness. The most common explanation of the cause of blindness offered by junior high school-age subjects was the phrase "born that way," or similar such phrases (e.g., "born blind"). This explanation was offered by 61.9% of the subjects in this age group. These subjects also mentioned physical trauma as a cause of blindness, both general trauma (47.6%) and trauma specific to the eyes (47.6%). Some (28.6%) subjects also referred to an unspecified event happening to the eyes (e.g., "something happened to his eyes,") and (14.3%) referred to just going blind," "something happening," and such.

The explanations noted above were offered rather frequently. Subjects in this age group also offered a wide variety of other explanations of how people become blind, but did so rather infrequently. Specifically, 14.3% mentioned illness (unspecified); and 14.3%, heredity or congenital factors. Occasional subjects mentioned the sun: 9.5% offered looking at the sun as a rather routine explanation, whereas 9.5% explained that this is a rather rare cause. Occasional subjects were very specific about causes: 9.5% named a specific illness that can cause blindness, and 4.8% referred to injuries involving specified parts of the eye. Some (9.5%) noted miscellaneous other causes.

References to highly improbable or unrealistic causes were uncommon: 4.8% mentioned eye-specific injury in an improbable way, while 4.8% offered some other explanation judged to be highly improbable.

Deafness. The most common explanation of the cause of deafness was the phrase "born that way" or "born deaf" (47.6%). Subjects also mentioned ear-specific physical trauma [e.g., pokes], (38.1%) and illness (33.3%) rather frequently. Mentioned less frequently were the vague "something happened to _____" ["something happened to his ears"] (19.0%) and the even vaguer "something happened" or "just went deaf" (14.3%). Occasional subjects noted injury to specified parts of the ear, such as the eardrum (14.3%); congenital or hereditary factors (14.3%), non-ear-specific trauma (9.5%), and specific illnesses (4.8%).

Loud noises were mentioned as a cause of deafness (in a way judged unrealistic) by 14.3% of the subjects in this age group. This was the only improbable cause of deafness named by these subjects.

Orthopedic handicaps. By far the most frequent explanation of the cause of orthopedic handicaps for the junior high-age subjects was physical trauma, either general trauma like an accident (66.7%) or trauma to specific parts of the body (52.4%). These subjects also mentioned rather frequently specific illnesses (38.1%) and the idea that one is "born that way" (33.3%).

Noted less frequently were unspecified illness ["get sick"] (9.5%); and the comparatively sophisticated references to back or spinal injury (14.3%), hereditary or congenital factors (9.5%), and perinatal events (4.8%).

None of the subjects in this age group mentioned any highly improbable explanations of the causes of orthopedic handicaps.

Mental retardation. The common explanations of the causes of mental retardation were heavily organic: "born that way" (53.4%) and references to heredity, congenital factors, and such (23.8%). Also offered were vague explanations that "something happens to something" ["something goes wrong with their mind"] (23.8%); that "something happens" or one "just gets retarded" (8.7%); references to physical trauma, either general (14.3%) or specific to the head (4.8%); unspecified illness of the handicapped person (4.8%); and child abuse (4.8%).

Finally, one subject explained that there may be a voluntary aspect of the causation--that the observed problems may reflect a wish for attention or may be motivated by some factor potentially under the person's control. One subject in this age group offered a highly improbable explanation of the cause of mental retardation related to hereditary or congenital factors. Two subjects offered psychological or emotional causes; and two made some references of causes that might be interpreted as cultural-familial.

Psychological disturbances. The only category of explanation of psychological disturbances occurring with notable frequency among junior high school-age subjects was a category we called "personality trait" (e.g., moodiness, hyperactivity, withdrawal). This kind of explanation was offered by 36.4% of the subjects in this age group discussing material related to psychological disturbances (11 subjects). Another type of cause noted occasionally (by 19.2%) was emotional maltreatment by parents at some time, not specifically in early childhood.

Numerous other explanations occurred only once during interviews with subjects in this age group. These were: child abuse; the way emotions are handled; a lack of will power or effort to gain attention; "born that way"; something unspecified occurring ("just went...:); disturbances in relationships with peers; parental emotional maltreatment specific to early childhood; faulty communication with people; stress or tension; and miscellaneous other causes.

High School Students' Explanations of Causes

Blindness. The high school students provided a great variety of explanations of the causes of blindness. Three-fourths of the subjects in this group mentioned physical trauma not specific to the eyes; about two-thirds mentioned that one may be "born blind" or "born that way"; and 54.2% mentioned eye-specific trauma. Half mentioned heredity or congenital factors.

Many other kinds of explanation were given as well: "something happened to the eyes" (28.6%); "something happened" or "just went blind" (14.3%); illness, unspecified (25.0%) and specified (37.5%); and perinatal events (12.5%). Mentioned infrequently were injury to specific parts of the eye (4.2%); neglect [failure to take care of the eyes] (4.2%); and psychological causes [e.g., hysteria, whether mentioned as conversion hysteria or not] (4.2%). Subjects in this group also referred to the sun: 8.3% mentioned looking at the sun as a routine cause, while 8.4% mentioned this cause in a qualified way. Finally, 16.7% mentioned miscellaneous other causes.

References to highly improbable causes were observed occasionally. One subject mentioned physical trauma unlikely to cause blindness; one subject, to congenital factors unlikely to cause blindness. A surprising 12.5% referred to television, lights, overuse of the eyes, and such in unrealistic ways. Finally, one additional miscellaneous unlikely explanation was noted.

In short, high school students provided many explanations of the causes of blindness, and, as a group, covered a wide range of types of explanation. Within this age group, one found not only many references to being "born that way" and to "accidents," but one also heard detailed explanations about heredity and diabetes, as well as references to overusing one's eyes and other unlikely explanations.

Deafness. The most common explanation of the causes of deafness involved trauma, both general trauma such as accidents (58.3%) and ear-specific trauma (41.7%). Subjects also mentioned rather frequently (33.3%) heredity or congenital factors. Also rather common were references to unspecified illnesses (25.0%); explanations of being "born deaf" or "born that way" (25.0%); and realistic, qualified references to loud noises (25.0%).

Less common were references to "something happening to the ears" (12.5%) and "just getting deaf" or "something happening" (4.2%); references to eardrum injury or injury to other specified parts of the ear (16.7%); specific illnesses (8.3%); references to perinatal events (4.2%); and references of volitional or attentional factors (4.2%).

Highly improbable causes were named quite infrequently. One subject mentioned a congenital or hereditary factor in a highly improbable way, while 12.5% mentioned loud noises in a highly improbable way.

In short, as for their explanations of the causes of blindness, the high school students clearly showed a wide range of sophistication about the causes of deafness. While some students were very sophisticated, some were not. As a group, they provided a great variety of explanations, some detailed and realistic, many vague, some highly improbable.

Orthopedic handicaps. High school students' explanations of the causes of orthopedic handicaps were both plentiful and detailed. Many (82.6%) mentioned accidents or other general trauma, and 34.8% mentioned trauma to specific parts of the body. Many (65.2%) named a specific illness that can cause orthopedic handicaps. Few (8.7%) simply mentioned illness, without specifying at least one illness. Also mentioned quite frequently were birth defects, heredity, or congenital factors (43.5%); "born that way" (30.4%); and injury to the back or spine (30.4%).

Other causes were mentioned as well. A somewhat surprising 13.0% mentioned that orthopedic handicaps may have psychological causes. Other causes noted occasionally were perinatal events (4.3%); physical neglect after the perinatal period (8.6%); and causes involving volition in some way, such as efforts to gain attention or to obtain secondary gain (4.3%). Only one subject mentioned a highly improbable cause, one related to congenital factors.

Mental retardation. High school students' explanations of the causes of mental retardation were heavily organic. Over half mentioned being "born that way" (56.5%), and over half mentioned congenital or hereditary factors (52.2%). All other categories were used by rather small numbers of subjects, and those categories were largely related to physical causes. Specifically, 17.4% mentioned head injury or damage to the brain; 13.0% mentioned general physical trauma; 8.7% mentioned illness of the handicapped person; 8.7% mentioned perinatal events; and 4.3% mentioned (physical) child abuse. Thirteen percent mentioned psychological or emotional causes. The only other categories used were the somewhat vague "something happened to ________" (mind, brain) category (17.4%) and the even vaguer, "something happened" or "just got retarded" category (8.7%). Finally, 4.3% mentioned some miscellaneous causes that were judged to be possible, and 13.0% mentioned some miscellaneous causes judged to be highly improbable. Only 13.0% referred to causes that could be interpreted as cultural-familial.

Psychological disturbances. High school students mentioned a wide variety of causes of psychological disturbances. Those noted by high percentages of students are notably psychological: disturbances in relationships with peers (36.4%); parental emotional maltreatment specific to early childhood (31.8%) and not specific to early childhood (27.3%); the way in which emotions are handled (31.8%); and faulty communication patterns and relationships (31.8%).

Other causes were also named: child abuse (22.7%); the stress of today's world (18.2%); personality traits (18.2%); social conditions, like poverty (13.6%); a lack of will power or an effort to gain attention (13.6%); and being "born that way" (13.6%). Rarely noted were traumatic events, either specific events in childhood (4.5%) or events not taking place in early childhood (9.1%).

Finally, 54.5% mentioned causes of psychological disturbances not covered by the coding scheme, coded as "miscellaneous."

Notably absent from the high school students' explanations are organic explanations: none mentioned birth defects, heredity, congenital factors, and none mentioned physical illness. As noted, 13.6% mentioned being "born that way," but, on the whole, explanations were heavily psychological and interpersonal, not organic.

Adults' Explanations of Causes

As discussed previously, there were considerably fewer subjects in the adult group than in any other group, that is, 11 adults, and roughly twice as many subjects in each of the other groups. Consequently, data pertaining to adult responses should be interpreted with the small sample size in mind.

Blindness. The adults provided many explanations of the causes of blindness. More than half of the adults offered explanations in the following categories: general trauma not specific to the eyes [e.g., accidents], (80.0%); eye-specific trauma [e.g., pokes] (60.0%); congenital or hereditary factors (80.0%); and injury to specific parts of the eye [e.g., the retina] (60.0%). Half mentioned that one may be "born blind." References to illness were also quite frequent, with 40.0% specifying at least one particular illness, and one subject referring to illness in general. Other categories used by adults were: perinatal events (30.0%); "somthing happened to ________[the eyes]" (20.0%); "something happened" or "just went blind" (20.0%); physical neglect after the perinatal period (20.0%); and looking at the sun, with an explanation that this is unusual (10.0%).

Deafness. The most common adult explanation of the causes of deafness was a congenital or hereditary factor; 81.8% gave some explanation in this category. Other frequent explanations were related to injury or accidents; 54.5% mentioned injury to the eardrum or other specific parts of the ear; 45.5%, trauma not specific to the ear; and 18.2%, trauma to the ear. References to illness also occurred: 45.5% mentioned specific illness, while 45.5% mentioned illness generally. Finally, 18.2% referred to being "born deaf," and 18.2% mentioned loud noises in a qualified or realistic way.

In discussing auditory impairment, some (27.3%) also mentioned volitional or attentional factors.

Orthopedic handicaps. The causes of orthopedic handicaps named frequently by adults were accidents and other general trauma (90.0% of the adults), as well as trauma to specific parts of the body (45.5%); specific illnesses (72.2%); hereditary and congenital factors (72.2%); and injury to the back or spine (72.2%). Other causes were mentioned quite infrequently: "born that way" (18.2%); unspecified illness (9.1%); and psychological causes (9.1%).

Mental retardation. All of the adults mentioned birth defects, hereditary, or congenital factors as a cause of mental retardation. All other causes were mentioned by comparatively few adults: 36.4% mentioned perinatal events; 36.4% a specific illness of the handicapped person; 36.4%, physical injury causing injury not specific to the head; 18.2%, illness, without mention of a specific illness; 9.1%, physical neglect not occurring in the perinatal period; 9.1%, "born that way"; 9.1%, injury causing damage to the head or brain; and 9.1%, psychological or emotional factors. Finally, 27.3% mentioned some other cause.

Only 36.4% made any reference to causes that could in any way be interpreted as cultural-familial.

Psychological disturbances. Unlike the high school students, adults mentioned organic causes of psychological disturbances rather frequently; 44.4% mentioned being "born that way;" and 11.1% mentioned a physical illness of the handicapped person. At least one adult mentioned each of the other categories of causes of psychological disturbances, except for the category related to personality traits; that is, adults did not say that psychological disturbances are caused by moodiness, hyperactivity, or other traits. Of the remaining categories, those used rather frequently were: the way emotions are handled [e.g., repression]

(33.3%); parental emotional maltreatment not specific to early childhood (33.3%); faulty communication patterns or relationships (44.4%); and the stress or tension of living in today's world (44.4%). Less frequently mentioned were: a lack of will power or effort to gain attention (22.2%); parental emotional maltreatment in early childhood (22.2%); physical child abuse (11.1%); "something happened" or "just went crazy" (11.1%); "something happened to ________" [the brain, mind], (11.1%); disturbances in relationships with peers or friends (11.1%); emotionally traumatic events in early childhood (11.1%) or not specifically in early childhood (11.1%); and social conditions, such as poverty (11.1%).

Fantasies About Causes of Handicaps

Contagion

In designing curricula for educating children about handicaps and in planning other educational interventions, adults have sometimes been eager to assure children that handicaps are not contagious. Underlying this eagerness is the implicit assumption that children believe or fear that handicaps are contagious. All interviews were sieve-coded for any expression of the idea that handicaps are contagious.

This idea was expressed by very few subjects. One high school subject spoke about the way in which psychological disturbances may be transmitted interpersonally in a way that contained a hint of a contagion idea. One adult spoke of blindness, and one junior high school-age child, of blindness, deafness, and orthopedic handicaps, as contagious. It is important to note the way in which these contagion ideas were expressed, since in these interviews and in pilot interviews, the idea of contagion appeared only in one particular way. Namely, the rare subject who mentioned contagion did so in and only in the context of a germ or disease theory.

A good example of germ theory as a basis for the contagion idea is the following excerpt from a pilot interview with a seven-year-old. The child is replying to a question about whether a blind child who lives near and plays with a deaf child could ever become deaf:

> Maybe. If the girl who was blind caught...If they were too close to each other all the time...the girl who was blind could get deaf, and the girl who was deaf could get blind...One would catch to be blind, the other would catch to be deaf: The germs, when they breathe too close to each other.

The few subjects who mentioned contagion of physical or sensory handicaps did so in the context of a germ theory. The contagion beliefs, then, were not fantasies in the sense of irrational or superstitious beliefs. On the contrary, when contagion ideas were voiced, they were presented as the result of scientific efforts to explain causes. These subjects did not express irrational fears that being around handicapped people somehow contaminates one; rather, they gave rational explanations.

Blame

Another fantasy that has received some attention in the literature about popular beliefs concerning handicaps is the idea that the handicapped are being punished for some kind of sin. This idea was never expressed by the subjects in this study. What may be interpreted as a highly attenuated form of this fantasy--the idea of blame--appeared very rarely. Specifically, several high school-age subjects said that people may be responsible for being blind or orthopedically handicapped. This is, of course, possible (e.g., orthopedic handicaps caused by faulty driving). Two high school-age subjects also seemed to hold psychologically disturbed people responsible for their handicaps. In all, this idea was expressed by a total of only three subjects, all high school students, one of whom mentioned psychological disturbances and orthopedic handicaps, one of whom mentioned psychological disturbances, and one of whom mentioned blindness.

This idea that handicapped people are to blame for their handicaps, while infrequent, is highly dramatic to encounter:

Question: How do most other people react to blind people?
Answer: It's their fault.
Question: Say it again?
Answer: Yeah. They probably think it's that person's fault he got blind. (age 15)

In contrast, a slightly larger number of subjects explicitly mentioned that people other than the handicapped person may be to blame for the handicap. (Subjects were coded as expressing this idea only if they said outright that someone is, was, or might be at fault.) A total of only seven subjects blamed people in this way. Four of these seven subjects blamed people other than the handicapped person for causing psychological disturbances. One of those four also mentioned mental retardation. Of the remaining three, one mentioned orthopedic handicaps; two, both deafness and orthopedic handicaps.

In short, neither the fantasy of contagion nor the blaming of handicapped people for handicaps appeared in the data, except in the specific instances noted here. A few subjects occasionally blamed people other than the handicapped person for causing a handicap.

If one compares these results with other results concerning explanations of the causes of handicaps, then it is clear that the contagion and blame ideas are vastly outnumbered by other beliefs about causes. This study provides no evidence to support the assumption of curriculum designers that beliefs about contagion are prevalent. It does not provide any evidence that children or adults often blame handicapped people for their handicaps. When any such ideas appeared, they were usually stated in attentuated and, often, reasonable form (e.g., polio is contagious.) It is, or course, possible that these ideas appear frequently in populations different from the one studied here.

Summary

Several conclusions and general patterns emerge from this examination of explanations of the causes of handicaps offered by subjects in different age groups.

First, young children showed little interest in the causes of handicaps and offered few explanations. Although the preschoolers occasionally offered wildly fantastic ideas about causes (e.g., overeating as a cause of blindness), these strange ideas were voiced in a few dramatic cases and were not typical of the responses of the young children as a group. Rather, a typical picture of the preschooler's explanation of causes is one depicting a lack of interest and few ideas.

These results are interesting mainly because there appears to be a widespread folk-belief among educators that young children are preoccupied with speculation about how people become handicapped. It may, in fact, be the case that children who encounter severely and obviously physically handicapped people do ask and worry about how these people became handicapped. The results presented here are not results about children's statements in those situations. The children in this study certainly did not discuss such incidents, nor did they avoid the topic of causes. They seemed to treat questions about cause in a matter-of-fact and unemotional way. Quite simply, they had little to say and did not seem to be filled with ideas they were not voicing.

At the time when children are beginning to develop concepts of handicaps, the idea of cause seems not be be a salient component of those concepts. Although preschoolers often discussed something about sensory or physical handicaps, the topic of causes was not a particularly prominent feature of their discussions.

Second, after the preschool years, subjects seemed to show several general patterns in the development of ideas of causes. Explanations of causes became, with increasing age, more plentiful, more accurate, and more specific. Subjects, as a group, offered an increasingly wide range of probable explanations. Highly improbable responses decreased in frequency, although it should be noted that some such responses were observed among high school students. Most strikingly, with increasing age, subjects became notably more specific. For instance, the categories reflecting vague "something happened" or "just got ____" responses were generally used by few adults, while adults frequently named specific illnesses or metabolic disorders that cause various handicaps.

Third, among the older subjects (high school students and adults), one observes a rather heavy emphasis upon two general types of explanation: explanations in terms of accidents of one kind or another, and explanations in terms of factors present at birth. These kinds of causes are overemphasized for some handicaps; for blindness, to take one example, such explanations occur rather frequently, while references to perinatal events are underemphasized.

Finally, subjects emphasized organic rather than cultural-familial causes of mental retardation. Even among adults, references to any causes that could be in any way interpreted as cultural-familial were uncommon in comparison with the importance of organic causes.

Contagion and Immunity Responses to a Story

As noted previously, the subjects in this study rarely expressed contagion ideas spontaneously, and then, did so only in the realistic context of a germ or disease theory. Contagion ideas may be prevalent in populations other than the one used in this study. Furthermore, contagion ideas may be fantasies that subjects did not express in interviews. At any rate, subjects in this study did not express the belief that handicaps are contagious when discussing particular handicaps.

In order to probe for ideas related to contagion without suggesting these ideas to children, (i.e., to avoid sounding as if we considered the possibility a likely one), child subjects were told a story about two handicapped children, a blind child and a deaf child, then asked, "Could the blind child ever become deaf, or not?" The point of using this question was to provide subjects with the opportunity to discuss contagion ideas. (Because this question interfered with the general tone of adult interviews, adults were not asked this question.)

Responses to the question were coded using four nominal categories: (a) No, the blind child could not become deaf, (b) Yes, the blind child might, but contagion was not mentioned, (c) Yes, it could happen, with contagion mentioned, and (d) Expressions of uncertainty about whether this could or could not happen.

The results of this coding are shown in Table 7-7, which presents percentages of subjects in the preschool, primary, junior high, and high school groups giving responses in each of these four categories. As the high school students all perceived, there is one and only one accurate answer to this question: Yes, the blind child could become deaf, but not because he "caught" the

Table 7-7

Percentages of Subjects in each Age Group Giving Various Responses to the Question, "Could the Blind Child Ever Become Deaf?"

	Age Group			
Response	Preschool (n=19)	Primary (n=25)	Junior High (n=19)	High School (n=22)
No, could not	52.6	12.0	5.3	0
Yes, might, no contagion	31.6	72.0	8.4	100
Yes, via contagion	0	0	5.3	0
Uncertain	15.8	16.0	5.3	0
	100.0	100.0	100.0	100.0

Note. Because this question interfered with the general tone of adult interviews, adults were not asked this question.

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deafness disease. Only a single child gave a response related to contagion, a junior high student using a reasonable disease theory. The results related to the story, then, are in keeping with ideas subjects expressed when discussing particular handicaps. Subjects rarely mentioned contagion, and then only when talking about diseases in realistic ways.

Indeed, the interesting findings evident in Table 7-7 pertain not to contagion but, rather, to an assumption of immunity or mutual exclusiveness. More than half of the preschoolers replied that the blind child could not become deaf; 12.0% of the primary group gave this response; and one junior high student did so.

Some children answering the question simply made flat yes-no statements. Some, however, gave explanations suggesting that negative answers are not merely unjustified assertions, but rather, expressions of a belief that one handicap rules out another. The following are responses to the question, "Could the blind child ever become deaf, or not?"

Answer: No. He can hear. (age 3)

Answer: No, because he was blind.
Question: Could he still get to be deaf?
Answer: No. (age 4)

Answer: No, 'cause, then, two handicaps... (age 4)

Answer: No.
Question: Is that impossible?
Answer: Yes.
Question: Is it possible for one person to be blind and deaf? Does that ever happen?
Answer: No.
Question: Why?
Answer: Because then you couldn't hear and see.
Question: Could that ever happen?
Answer: No. (age 4)

Answer: No. All of us stay our own shape. A bus stays in his own shape. He drives...
Question: Could the blind child ever get to be deaf?
Answer: No, he couldn't because, the only way, if he was deaf, he could make it so he could just get out of it. And then he can get deaf...If he shook himself, and then when he got to be deaf, he couldn't hear. And then he could see. (age 4)

In short, some children argued that the two handicaps are mutually exclusive: If one is blind, that is what one is, blind, and not deaf. Others argued tautologically: The effect of being both blind and deaf is that one can neither see nor hear, a condition so difficult that it cannot occur.

These results suggest that far from harboring beliefs that handicaps are contagious, young children may believe, in effect, that immunity to handicaps exists. People are what they are; if they are not deaf, then they are not deaf. That is, preschool children seemed to think of handicaps in terms of static states rather than in terms of processes potentially involving transformation. Some feeling for the quality of children's responses may be gained if one imagines one's own response to being asked whether a cat can become a dog.

These results do not, of course, pertain to children's beliefs about themselves. Interviewers carefully avoided asking direct questions like: "Could you ever become deaf?" We simply do not know whether the children expressing immunity ideas about the characters in a story would have used these same immunity ideas about themselves. It seems likely that some children would have done so. It also seems likely that had children harbored ideas that they themselves might "catch" handicaps, these ideas would have been voiced in response to the story, as (with one highly qualified exception), they were not.

CHAPTER 8. THE PROGNOSIS OF HANDICAPS

In Chapter 7, we were concerned with subjects' views of the causes of handicaps. While the focus of that chapter was the past history of events in the lives of handicapped people, the focus of this chapter is subjects' ideas about the future. Specifically, this chapter deals with subjects' beliefs about the permanence or impermanence of handicaps, and about the lives of adult handicapped people

In discussing these results, the familiar problem of finding appropriate terminology reappears. Many terms that might be used (e.g., the word *prognosis* itself, *cure*, *remediability*, and many others) are terms often used in relation to diseases. What has a cure is usually a disease. As handicapped people increasingly stress, handicaps are not to be equated with diseases. If one is to avoid perpetuating disease-related stereotypes about handicapped people, one must make an effort to avoid disease-related terminology to talk about healthy handicapped people.

On the other hand, appropriate terms are difficult to find. Specifically, to speak of subjects as understanding the "irreversability" of a handicap is to use a term that has a series of complicated meanings within cognitive-developmental psychology, meanings unrelated to the idea for which a term is needed here.

Consequently, we have fallen back on the use of words like *curability* and *optimistic prognosis*. So far as possible, however, we have tried to state specifically the exact reference of these terms. Namely, *prognosis* refers to the probable permanence or impermanence of a handicap. To speak of an optimistic prognosis is to refer to a view that a handicap is readily cured--that the blind frequently or readily become able to see.

Coding Views of Curability

Interviews were coded for each subject's realistic, overly pessimistic, or overly optimistic view of the curability of each handicap. Did the subject express a realistic view, or did he or she believe the handicap to be permanent or temporary? Although the coding of these variables was based largely on responses to questions about curability (e.g, "If a person is blind, can he ever become able to see or not?"), coding was also based on references to prognosis occurring in other parts of interviews as well. For instance, if a subject responded to the question about which handicap would be easiest with a statement about the curability of a handicap, such material was coded.

An expressed view of curability was coded as overly pessimistic if a subject asserted that a handicap is never curable, except in instances when this seems actually to be the case. A view was coded as overly optimistic if a subject expressed the view that a handicap is always or nearly always remediable or easily cured. For instance, it was considered to be overly optimistic to declare that blindness is cured by operations, with no appropriate qualification. Similarly, it was considered "overly pessimistic" to assert that blind people never become able to see. To give another example, it is overly optimistic to say that psychological disturbance can be cured by talking about problems, unless one qualifies this statement. It is overly pessimistic to say that people are never cured of psychological disturbance. Coding was based on all relevant information a subject provided. If a subject, for instance, discussed several blind people and discussed the issue of whether these people would become able to see, then the coding was a judgment of the subject's overall view, not a judgment based on any single response. When coders were in doubt, they were instructed to code views as realistic rather than optimistic or pessimistic.

Probably because the degree of mental retardation, the problem of defining retardation, and other factors are complicated (and because subjects' understanding of retardation was sometimes very complex and distorted), it proved to be impossible to obtain acceptable levels of interrater reliability for coding subjects' views of the curability of mental retardation. Consequently, results are not presented for views of mental retardation.

Results Concerning Views of Curability

Tables 8-1, 8-2, 8-3, and 8-4 show percentages of subjects in each age group expressing realistic, overly pessimistic, and overly optimistic views of the curability of blindness, deafness, orthopedic handicaps, and psychological disturbances. (Like all such tables in this report, these percentages are based on subjects who showed at least minimal awareness of the handicap, not on total numbers of subjects.) These tables also show the percentages of subjects who simply said they did not know whether a handicap was permanent or not. (A few subjects' responses were unclassifiable.)

Table 8-1

Percentages of Subjects Expressing Certain Views of Blindness

	Age Group				
Views	Preschool	Primary	Junior High	High School	Adult
Overly pessimistic	56.3	46.2	0	12.5	20.0
Realistic	0	15.4	57.1	50.0	70.0
Overly optimistic	31.3	23.1	38.1	37.5	0
Don't know	6.3	15.4	0	0	10.0

Note. Percentages are based on numbers of subjects expressing at least minimal awareness of blindness.

Table 8-2

Percentages of Subjects Expressing Certain Views of Deafness

	Age Group				
Views	Preschool	Primary	Junior High	High School	Adult
Overly pessimistic	28.6	23.1	14.3	17.4	0
Realistic	0	7.7	28.6	43.5	90.0
Overly optimistic	42.0	30.8	33.3	26.1	10.0
Don't know	28.6	30.8	19.0	13.0	0

Note. Percentages are based on numbers of subjects expressing at least minimal awareness of deafness.

Table 8-3

Percentages of Subjects Expressing Certain Views of Orthopedic Handicaps

Views	Age Group				
	Preschool	Primary	Junior High	High School	Adult
Overly pessimistic	55.6	8.7	0	4.8	0
Realistic	0	8.7	55.6	33.3	81.8
Overly Optimistic	11.1	52.2	38.9	61.9	18.2
Don't know	33.3	30.4	0	0	0

Note. Percentages are based on numbers of subjects expressing at least minimal awareness of orthopedic handicaps.

Table 8-4

Percentages of Subjects Expressing Certain Views of Psychological Disturbance

Views	Age Group				
	Preschool	Primary	Junior High	High School	Adult
Overly pessimistic	-	-	37.5	5.0	0
Realistic	-	-	25.0	40.0	55.6
Overly Optimistic	-	-	25.0	55.0	44.4

Note. Percentages are based on numbers of subjects expressing at least minimal awareness of psychological disturbance.

Preschoolers gave either overly optimistic or overly pessimistic views of the curability of handicaps they discussed, or said they did not know whether handicaps last. Primary grade children occasionally presented realistic views of curability. Junior high, high school, and adult subjects expressed realistic views frequently regarding the curability of each handicap. The percentages of subjects expressing realistic views of the curability of each handicap generally increased with age.

For the sensory handicaps, this pattern of increasing frequency of realistic views is the predominant result. For views of orthopedic handicaps, the results show another pattern. Namely, both primary grade, junior high, and high school subjects frequently expressed overly optimistic views of the curability of orthopedic handicaps. As noted previously, the overoptimism of primary grade subjects seems to stem from a confusion between genuine orthopedic handicaps and temporary conditions: It was sometimes difficult to tell whether children in that age group really made the distinction between injury, (e.g., broken legs), and orthopedic handicaps. Clearly, however, the overoptimism of the junior high and high school subjects cannot be explained away in this fashion.

What, then, is the explanation for the observed overoptimism of adolescent subjects about orthopedic handicaps, an overoptimism sometimes observed for other handicaps as well? The results of this study do not provide a causal explanation of this finding. There are several possible explanations. First, one might interpret this overoptimism as an adolescent trait or as a residue of earlier confusions between orthopedic handicaps and temporary injuries. It seems doubtful, however, that such a residue of the assimilation of ideas of orthopedic handicaps to ideas of broken legs could persist without some strong environmental support. Second, then, environmental factors could be involved. Specifically, one might blame television's unrealistic depiction of miracle cures. The interviews certainly suggest that television watching may be one factor in promoting overoptimism. Subjects frequently mentioned dramatic episodes from television shows, but did so with regard to handicaps other than orthopedic ones, as well as for orthopedic handicaps. Environmental factors other than television might be involved as well. For instance, parental explanations of orthopedic handicaps may involve softened, overly optimistic views of curability. It seems unlikely, however, that the high school subjects were exposed only to distorted views of the curability of orthopedic handicaps presented by parents.

This question of the source of overoptimism about cure arises again when one examines results pertaining to psychological disturbances. Specifically, both high school subjects and adults were quite frequently overly optimistic about the curability of psychological disturbances. While one might hunt for arguments to the effect that adolescent qualities affect the high school subject's views of the curability of handicaps, this explanation in terms of age-group traits obviously will not work for adults' views of psychological disturbances; nor may one argue that adults are somehow protected from realities by well-meaning adults.

In short, results pertaining to views of the curability of handicaps are complex. Adults were often realistic about the curability of blindness, deafness, and orthopedic handicaps, and fairly often overly optimistic about curing psychological disturbances. When subjects in any age group were not realistic, they were optimistic rather than pessimistic in many cases. Departures from a realistic point of view tended to be in the direction of optimism rather than pessimism, especially for older subjects.

Curing Handicaps and Adapting to Handicaps

A person's view of how readily or frequently curable a handicap is does not exhaust his concept of the prognosis of a handicap. This concept also may include a distinction between the outright cure of a handicap and adaptation to the handicap. For instance, a subject might respond to questions about whether handicapped people stay handicapped by asserting that they do remain handicapped, but respond to treatment, learn to live with the handicap, or otherwise deal with the handicap.

Interviews were coded for any distinction between cure and adaptation for each of the five handicaps. This coding was performed very broadly; any statement hinting at such a distinction was taken as evidence that the subject made the distinction.

Results

Table 8-5 shows the percentages of subjects in each age group discussing each handicap who made the distinction between cure of the handicap and adaptation to it.

Two patterns emerge from this table. First, with regard to handicaps, it is clear that subjects seldom made this distinction when talking about blindness. They sometimes made the distinction when talking about deafness and about orthopedic handicaps. They applied the distinction quite often to mental retardation and to psychological disturbances.

Second, with regard to age, adults used this distinction in their discussion much more frequently than did younger subjects. Preschoolers never voiced the distinction, primary grade children very seldom, junior high and high school subjects fairly frequently, and adults, frequently. The adult pattern of frequent mention of this distinction for mental retardation and psychological disturbances (in contrast to other handicaps) is not observable in the younger subjects: Although high school subjects sometimes applied the distinction to mental retardation, they did so much less often than did adults. Furthermore, only 9.1% of the high school subjects applied the distinction to psychological disturbances, while 66.7% of the adults did so.

Roughly speaking, then, drawing the distinction between curing a handicap and adapting to it seems to be a hallmark of an adult discussion of handicaps other than blindness.

Lives of Adult Handicapped People

One aspect of a person's concept of the prognosis of a handicap is his or her view of how a handicap affects the way adult

Table 8-5

Percentages Of Subjects Distinguishing Between Cure Of And Adaptation To Each Handicap

Handicap	Age Group				
	Preschool	Primary	Junior High	High School	Adult
Blindness	0	0	9.5	4.2	10.0
Deafness	0	3.8	33.3	16.7	45.5
Orthopedic handicap	0	0	23.8	13.0	45.5
Mental retardation	0	0	28.6	30.4	72.7
Psychological disturbance	-	-	0	9.1	66.7

Note. Percentages are based on numbers of subjects expressing at least minimal awareness of a handicap.

handicapped people lead their lives. Does a subject envision people with a handicap as totally immobilized; living and working like other people; living in sheltered workshops; or as leading their lives in some other way that makes them like or unlike non-handicapped people?

In attempting to investigate this question, we included in the interview schedule a question about whether people with a handicap are likely to marry and have children. This particular question was used mainly because many subjects in this study were young children. To many of these children, a general question (e.g., "What do grown-up blind people do?") would have been quite meaningless and difficult to answer. In contrast, these children were able to think about and respond to the concrete topics of marriage and children; these were familiar and meaningful questions even to young children.

We would like to emphasize, partly in response to questions that have been raised in the course of conducting the study, that the inclusion of these questions about marriage and children is not intended to be a political statement. The questions were not intended to suggest that establishing a nuclear family is an index of one's successful adaptation to life. We also did not intend to suggest that handicapped people are more or less likely than other people to marry and have children. Our clinical impression during interviewing was that the questions did not raise doubts in subjects' minds about the possibility that handicapped people marry and have children. Rather, subjects seemed simply to respond to the questions; they did not seem to think we were suggesting any particular responses. Nevertheless, the reader who considers these questions politically objectionable or suggestive of responses is advised to take careful note that these questions were asked, and to weigh the results of the study accordingly.

Coding of Responses

The coding of responses to questions about marriage and children was dichotomous. Subjects were coded as saying (a) that handicapped people do marry, can marry, might marry, maybe do, and so forth, or (b) that handicapped people do not marry, probably do not, "I don't think so," and such. That is, positive, slightly positive, and neutral (e.g., "maybe") responses were grouped together, while negative and somewhat negative responses were grouped together. Flat statements like "I don't know" were coded separately, and uncodable responses were treated as missing data.

Results

The results presented in Tables 8-6 and 8-7 show percentages of subjects who said that handicapped people may, can, might, or do marry and have children. Omitted from the data presented are subjects who simply replied "I don't know" to questions about marriage and children, as well as subjects who did not discuss handicaps, for whom data were missing, and so forth.

These results show that adults and older subjects often said that handicapped people were as likely to marry and to have children as anyone else. High school subjects sometimes expressed the belief that psychologically disturbed people were less likely to

Table 8-6

Percentages of Subjects Asserting That Handicapped People Are Likely to Marry

Handicap	Age Group				
	Preschool	Primary	Junior High	High School	Adult
Blindness	57.1	76.9	95.0	95.5	100.0
Deafness	72.7	92.9	100.0	94.7	90.0
Orthopedic handicap	36.4	77.8	95.0	100.0	90.0
Mental retardation	-	100.0	93.3	92.9	80.0
Psychological disturbance	-	-	-	66.7	100.0

Note. Percentages are based on numbers of subjects expressing at least minimal awareness of each handicap.

Note. Percentages are based only on subjects who gave codable responses--omitted are subjects replying "I don't know" to questions, subjects not discussing the handicap, and so forth.

Table 8-7

Percentages of Subjects Asserting That Handicapped People Can, Do, May, Might Have Children

Handicap	Age Group				
	Preschool	Primary	Junior High	High School	Adult
Blindness	27.3	90.0	100.0	93.3	90.0
Deafness	30.0	75.0	94.4	100.0	100.0
Orthopedic handicap	41.7	75.0	89.5	90.0	87.5
Mental retardation	-	87.5	92.3	91.7	90.0
Psychological disturbance	-	-	-[a]	75.0	100.0

Note. Percentages are based on subjects who gave codable responses--omitted are subjects who said "I don't know" to questions, subjects not discussing the handicap and so forth.

[a] Data were available only for a very small number of subjects.

marry than were other people, and were less likely to have children.

Overall, the only group frequently expressing the idea that any handicapped people probably do not marry and have children was the preschool group. These results about preschoolers should not be interpreted as evidence of a generally negative attitude toward handicapped people. Rather, preschoolers and primary grade children sometimes mentioned practical, concrete impediments that could make it difficult for handicapped people to marry. These impediments were presented in a highly matter-of-fact, straightforward way. A total of four preschoolers and three primary grade children mentioned some kind of concrete impediment to the wedding ceremony that would make it difficult for a handicapped person to marry. For instance:

Question:	Can blind people get married or not?
Answer:	I don't think they can, because they can't see where, how to get to their marriage. (age 4)

Preschoolers sometimes based responses to these questions on single observations. For instance, having once seen a blind person without a probable spouse nearby, the child might conclude that blind people are not married. Clearly, these responses about whether or not handicapped people marry and have children do not reflect anything negative about the children's attitudes toward handicapped people; rather, these responses reflect general cognitive characteristics of the children.

In summary, if subjects viewed handicapped adults as differing from other adults, these views of difference were not reflected in responses to questions about marriage and children. Clearly, older subjects did not express expectations that handicapped people are excluded from these institutions.

The Right to Marry

Most older subjects expressed the view that handicapped people may marry and have children. To observe that marriage and child-rearing occur is not, however, necessarily to say that marriage and child-rearing should occur. Indeed, the topic of the right of handicapped people, especially mentally retarded people, to marry and to have children has sometimes been a controversial one.

Interviews were coded for any expressions of doubt as to the right of any handicapped people to marry and to have children. No preschoolers, primary grade children, or junior high students expressed such doubt about any handicapped people. In the high school group, one subject expressed such doubt with regard to deaf people and mentally retarded people. Among the adults, two of the 11 expressed doubts concerning mentally retarded people, and one concerning mentally retarded people and psychologically disturbed people.

This doubt as to the right of handicapped people to participate in the institutions of marriage and child-rearing, then, seems to be a mainly adult concern, although not a frequent one.

Practical Concerns About Children

Somewhat more frequent than an expression of doubt about the right of handicapped people to marry and to have children was an expression of concern that handicapped people might be unable to care for children properly. Some subjects expressed a concern that blind people would not be able to take care of children because they would not be able to see what the children were doing.

A total of 12 subjects expressed some such practical concern about handicapped people having children. Seven of these subjects mentioned these concerns in relation to blindness. Older subjects mentioned this concern more than did young subjects; one preschooler, no primary grade children, two junior high school students, five high school students, and four of the eleven adults raised this issue.

This kind of concern was shown by only one subject, a junior high student, in relation to mental retardation. That is, when practical concerns were mentioned, they rarely involved a concern about the ability of mentally retarded people to take care of children. Similarly, no subjects mentioned any such concern about psychologically disturbed people having children. Rather, subjects, when they raised this issue, talked about the sensory or physical ability of handicapped people to monitor the behavior of children and to be able physically to respond to the children's needs.

CHAPTER 9. CONCEPTS OF CURE, INTERVENTION, AND ADAPTATION

Results presented so far have shown, in general, that subjects often discussed handicaps as less than absolutely permanent. Subjects, that is, discussed numerous ways to cure handicaps, to ameliorate handicapping conditions, and to facilitate adaptation to handicapping conditions. Since subjects presented handicaps as remediable or otherwise subject to amelioration, one may now ask how subjects suggested intervention might occur. What cures were mentioned? What kinds of devices for coping with handicaps did subjects mention? What kinds of adaptation did they describe?

For the sake of clarity, results concerning suggested cures and coping mechanisms are presented separately (a) for the sensory handicaps and orthopedic handicaps, (b) for mental retardation, and (c) for psychological disturbances.

Sensory and Orthopedic Handicaps

Coping Devices

Interviews were coded for references to various concrete devices that help people to cope with blindness, deafness, and orthopedic handicaps. A subject was coded as referring to such a device whether or not the subject used the correct term for the device. For instance, a young child was coded as referring to sign language if he or she said, "talking with your hands," or otherwise described a coping mechanism. In asking questions about orthopedic handicaps, interviewers themselves referred to crutches and wheelchairs; this reference was necessary in order to help children understand the topic the interviewer wanted to discuss. Since interviewers used these words, references to crutches and to wheelchairs were not coded.

Table 9-1 shows the percentages of subjects in each age group discussing handicaps at all who mentioned various kinds of coping devices used by blind, deaf, and orthopedically handicapped people.

Preschoolers sometimes referred to the use of canes by blind people, and to the use of canes, walkers, or motorized wheelchairs by orthopedically handicapped people. They referred to sign language fairly frequently; 27.8% of the preschoolers discussing material even vaguely related to deafness referred to sign language. Preschoolers did not mention guide dogs, Braille, hearing aids, or other devices for dealing with these handicaps.

In contrast, the primary grade subjects as a group referred, at least occasionally, to devices in all the categories coded. Sign language was mentioned rather frequently, by 30.7% of the primary grade subjects.

Junior high subjects and high school subjects, overall, mentioned devices in all categories quite frequently. Again, sign language stands out as what one might call a "popular" device; 66.6% of the junior high students and 83.4% of the high school students mentioned sign language. Also notable in the table is a sharp increase between the primary grade and the

Table 9-1

Percentages of Subjects Mentioning Various Appropriate Coping Devices for Sensory and Orthopedic Handicaps

	Age Group				
	Preschool	Primary	Junior High	High School	Adult
Blindness					
Canes	12.5	23.0	23.8	41.7	70.0
Dogs	0	11.5	28.6	33.4	40.0
Braille	0	3.8	23.8	33.3	40.0
Other	0	15.4	42.9	33.3	40.0
Deafness					
Sign language	27.8	30.7	66.6	83.4	54.6
Hearing aids	0	15.3	47.6	54.2	72.8
Other	0	11.5	52.4	87.5	81.8
Orthodpedic handicaps					
Canes, walkers, motorized wheelchairs	23.1	8.7	19.0	8.7	45.5
Other	0	8.7	23.8	73.9	72.7

Note. Percentages are based on numbers of subjects in each group expressing at least minimal awareness of each handicap, not on total numbers of subjects.

junior high groups in the percentages of subjects who mentioned "other" devices for coping with handicaps. That is, by junior high, students mentioned a variety of specialized, sometimes esoteric devices for dealing with handicaps: lights that allow deaf parents to "see" the baby crying, and so forth.

Adults, overall, mentioned devices in all categories quite frequently. The main difference observable between adults and the older groups of students is that the "popularity" of sign language declines somewhat relative to other devices. That is, adults mentioned sign language less frequently than did junior high and high school students, but mentioned various other devices more often than did the students. In particular, the adult group emphasized hearing aids.

The tabulated data do not reflect an important quality of discussions of coping devices. Specifically, interviewers were impressed by the interest subjects displayed in sign language, Braille, special devices to facilitate locomotion for orthopedically handicapped people, and other coping devices. It seems clear when one talks with children, in particular, that interest in and enthusiasm about devices like these far exceeds children's access to information about other potentially interesting devices for coping with handicaps.

Sensory and Psychological Adapation

While some devices for coping with handicaps are concrete gadgets, special systems of communications, and other highly visible mechanisms of adaptation, other coping devices are sensory and psychological. For instance, the adaptation to blindness involves the development of one's ability to attend to auditory and other sensory cues and also involves psychological adaptation.

Interviews were coded for references to these kinds of special sensory adaptations and for references to psychological adaptation. For discussions of blindness and of deafness, interviews were coded for references to the development or use of senses other than the one involved in the handicap (e.g., blind people learn to attend to auditory cues, have to listen for cars). Discussions of deafness were also coded, separately, for references to the use of sensitivity to vibrations. Discussions of blindness, deafness, and orthopedic handicaps were coded for references to psychological adaptation to the handicap. For coding purposes, "psychological" adaptation was defined very broadly. "Psychological" adaptation involved a reference to any process of learning to live with a handicap other than a concrete, physical adjustment (e.g., a prosthetic device, sign language).

Results: Sensory Adaptation. Table 9-2 shows the percentages of subjects discussing each handicap who mentioned the use of other senses to facilitate adaptation to blindness and to deafness. This table also shows the percentage of subjects in each group who mentioned that deaf people can make use of sensitivity to vibrations.

Table 9-2

Percentages of Subjects in Each Group Mentioning Sensory Adaptation to the Handicap

	Age Group				
Handicap	Preschool	Primary	Junior High	High School	Adult
Blindness					
Use of other senses	0	23.1	28.6	45.9	40.0
Deafness					
Use of other senses	0	11.5	9.5	12.5	45.5
Sensitivity to vibrations	0	0	4.8	20.8	27.3

Note. Percentages are based on numbers of subjects in each group expressing at least minimal awareness of each handicap, not on total numbers of subjects.

Table 9-3

Percentages of Subjects in Each Group Mentioning Psychological Adaptation to the Handicap

	Age Group				
Handicap	Preschool	Primary	Junior High	High School	Adult
Blindness	0	0	9.5	54.2	90.0
Deafness	0	0	9.5	25.0	63.6
Orthopedic handicap	0	0	38.1	65.2	72.7

Note. Percentages are based on numbers of subjects in each group expressing at least minimal awareness of each handicap, not on total numbers of subjects.

This table shows that preschoolers did not mention sensory adaptations, although, as the data presented previously show, preschoolers did mention concrete devices for adapting to handicaps. From the primary grade upward, references to sensory adaptation show a general increase in frequency.

Results: Psychological Adaptation. Table 9-3 shows percentages of subjects in each age group who mentioned any kind of psychological adaptation to blindness, deafness, and orthopedic handicaps (for subjects discussing each handicap at all). Even more than data concerning references to sensory adaptation, these data present a picture of marked increase in frequency with age. Preschoolers and primary-grade children made no references to psychological adaptation, even though "psychological" adaptation was defined very broadly. In contrast, junior high students sometimes mentioned such adaptation, and did so considerably more frequently with regard to orthopedic handicaps than with regard to blindness or deafness. A considerably higher percentage of high school than junior high students referred to psychological adaptation to each of these handicaps. Finally, adults referred to such adaptation very frequently.

A clear statement of the idea of psychological adaptation appears in the following:

Question:	What do you think it would be like to have trouble walking?
Answer:	I think it would be more psychologically disadvantaged, because you can do everything everyone else can but you might be slower and you're definitely different so it's more psychological.

> And if you can get over that, it's hard, you might not be accepted as easily. So, if you can swallow your pride, learn to accept yourself how you are and then people will learn to accept you, and so you'll be fine after that. It's psychological. I think. (age 17)

Summary

A clear developmental picture emerges from the data presented concerning references to various coping and adaptational devices. When preschoolers discussed ways to cope with handicaps, they discussed concrete, perceptually salient devices: sign language, canes, and such. Primary grade children mentioned those devices, and other concrete devices as well. Some primary grade children also mentioned the use of other senses to compensate for a handicap. They did not, however, refer to psychological adaptation. Junior high school students mentioned not only a variety of concrete devices and the use of other senses, but some referred to psychological adaptation, too. High school students, as a group, referred to concrete devices, sensory compensation, and psychological adaptation fairly often. The development of an understanding of adaptation to handicaps, however, appears not to reach an endpoint in the high school years. Adults, like high school students, mentioned concrete coping devices quite often; mentioned sensory compensation even more than did high school students; and mentioned psychological adaptation very frequently.

In short, concepts of how one learns to live with a handicap seem to show a general trend from an understanding of the concrete and external, to an understanding of the practical use of sensory information, to an understanding of inner, psychological adaptation. The data suggest that an understanding of adaptation begins as concrete and practical, and with age, becomes abstract and experiential.

Cure and Intervention

Discussions of cures and intervention focused on three basic types of cure or intervention: (a) references to appropriate medical intervention, (b) vague references to "just getting better," "becoming able to walk again," and such, and (c) references to impossible cures and treatments, some of which were medical, some of which were not.

Coding. In accordance with the general coding system used in this study, references were classified as "impossible," "highly unrealistic," and such only when the subject described an outright impossibility or an extremely unlikely event. For instance, the idea that if the noise of fire engines can make one deaf, then listening to fire engines might restore hearing is classified as unrealistic. On the other hand, vague nonexplanations of spontaneous recovery were coded and are reported as such; the statement that people can "just get better" is vague, but is not treated as impossible.

Interrater reliability for the coding of some cure and intervention variables for orthopedic handicaps was unacceptably low;

consequently, no data are reported pertaining to subjects' mention of orthopedically handicapped people "just getting better" or for references to impossible cures for orthopedic handicaps.

Appropriate medical intervention. Table 9-4 shows percentages of subjects in each age group who mentioned appropriate medical intervention for blindness, deafness, and orthopedic handicaps. These references were not necessarily sophisticated descriptions of corneal transplants and such; rather, they were references to seeing doctors who might be able to help, and other such references, as well as technical descriptions. Clearly, older subjects referred to appropriate medical intervention more often than did younger subjects. Furthermore, for junior high, high school, and adult groups, fewer subjects referred to medical intervention for deafness than for blindness or for orthopedic handicaps.

In interpreting this result, one is reminded, once again, of the apparent importance of television as a source of information about handicaps; the recovery of sight and the recovery of the ability to walk seem to be events more commonly and dramatically presented in popular entertainment than is the acquisition of hearing. It may be that the older subjects' relative neglect of the topic of medical intervention and cure in relation to deafness reflects television's emphasis.

Just getting better. Table 9-5 shows the percentages of subjects in each group who described blind people and deaf people as "just getting over it," or otherwise as recovering spontaneously. While not markedly common in any age group, this kind of vague

Table 9-4

Percentages of Subjects Mentioning Appropriate Medical Intervention For Blindness, Deafness, And Orthopedic Handicaps

Handicap	Age Group				
	Preschool	Primary	Junior High	High School	Adult
Blindness	0	7.7	76.2	58.3	50.0
Deafness	10.5	19.2	19.0	25.0	36.4
Orthopedic handicap	7.7	26.1	28.6	30.4	54.5

Note. Percentages are based on numbers of subjects in each group expressing at least minimal awareness of each handicap, not on total numbers of subjects.

Table 9-5

Percentages of Subjects Stating That People "Just Get Over" Blindness and Deafness

Handicap	Age Group				
	Preschool	Primary	Junior High	High School	Adult
Blindness	0	3.8	19.0	29.2	0
Deafness	0	3.8	4.8	16.7	0

Note. Percentages are based on numbers of subjects in each group expressing at least minimal awareness of each handicap, not on total numbers of subjects.

nonexplanation was given by primary-grade, junior high, and high school students. Preschoolers and adults did not offer such vague descriptions.

Impossible cures and intervention. Table 9-6 shows the percentages of subjects in each group who mentioned impossible medical intervention for blindness, deafness, and orthopedic handicaps; and the percentages of subjects who mentioned other impossible cures for blindness and for deafness.

References to these impossible cures were not frequent, except in one instance: 31.3% of the preschoolers discussing blindness at all mentioned some impossible nonmedical treatment or cure (e.g., eating carrots). The important point emerging from these data is not that older subjects seldom referred to impossible cures; one would expect subjects to become more realistic with age. Rather, the interesting point emerging from these data is that references to impossible cures were observed, although rather infrequently, even among junior high school and high school-age subjects. These results are particularly notable when one recalls the population studied: subjects were from middle-class suburbs, and were, in general, a group of bright, articulate people.

Mental Retardation

Discussions of mental retardation were examined for reference to a variety of topics related to the treatment of mentally retarded people and their adaptation to their handicap. Results are presented in Table 9-7.

Table 9-6

Percentages of Subjects Mentioning Impossible Medical Intervention And Cures For Blindness, Deafness, and Orthopedic Handicaps

	Age Group				
	Preschool	Primary	Junior High	High School	Adult
Impossible medical intervention					
Blindness	6.3	7.7	0	0	0
Deafness	5.3	0	4.8	0	0
Orthopedic handicap	7.7	13.0	0	0	0
Other miscellaneous impossible cure					
Blindness	31.3	7.7	0	20.9	0
Deafness	15.8	11.5	9.5	4.2	0

Note. Percentages are based on numbers of subjects in each group expressing at least minimal awareness of each handicap, not on total numbers of subjects.

Table 9-7

Percentages of Subjects Mentioning Various Topics Related to Adaptation to Mental Retardation

	Age Group				
	Preschool	Primary	Junior High	High School	Adult
Institutions, residences, houses	-	0	4.8	13.0	36.4
Appropriate medical intervention	-	10.0	0	8.7	27.3
Impossible medical intervention	-	0	9.5	0	0
Miraculous recovery	-	0	4.8	0	0
Coping techniques, adaptational efforts	-	10.0	38.1	56.5	72.7
Psychological adaptation	-	0	19.0	17.4	72.7

Note. Percentages are based on numbers of subjects in each group expressing at least minimal awareness of each handicap, not on total numbers of subjects.

Although the topic of institutions for the mentally retarded, residences, half-way houses, and such is mentioned rather often in newspapers, television shows, etc., few subjects referred to these institutions. While 36.4% of the adults did so, only 13% of the high school students and 4.8% of the junior high students did so. Clearly, in discussing mental retardation, subjects did not focus on mentally retarded people in institutions. It was clear, in discussions, that institutionalization was not a salient feature of concepts of mental retardation.

Rather, in discussing ways to cope with mental retardation, subjects noted a wide variety of coping efforts--tutoring, special help, and other adaptational efforts that do not involve special institutions. There seems to be a great discrepancy betwen the subjects' depiction of coping with mental retardation and the reality of institutionalization.

References to psychological adaptation to mental retardation occurred occasionally in the junior high school group (19.0%) and high school group (17.4%), but were common among the adults (72.7%).

References to appropriate medical intervention occurred rather infrequently, and then, mainly in older subjects; for instance, subjects referred to PKU. Only one subject in the three youngest groups referred to appropriate medical intervention. This subject, in fact, did so in a rather striking way: He said that mothers do not like their children to be retarded; if an operation could cure retardation, mothers would have procured it for their retarded children; the mothers of retarded children he knew had not; therefore, there is no such operation.

Interviews were coded for references to impossible remedies and miraculous recoveries, as well as for realistic references to medical intervention. Such references occurred rarely, and then, only among students in the junior high school-age group: 9.5% of those subjects mentioned impossible medical intervention, 4.8%, miraculous recovery.

Psychological Disturbances

Interviews were examined for references to various ways to cope with psychological disturbances and for various descriptions of how such disturbances may be treated or cured. Table 9-8 shows the percentages of subjects in the junior high, high school, and adult groups mentioning each of these factors.

As was the case with regard to mental retardation, few subjects mentioned institutionalization, half-way houses, or other residential treatments. Only a few adults mentioned such institutions, and no other subjects did so. So far as subjects expressed their concepts of psychological disturbances in these interviews, institutionalization was not a prominent feature of concepts of psychological disturbance.

In contrast, high percentages of subjects explicitly mentioned psychotherapy, whether by that name or not. Even in the junior high group, 27.3% referred to therapy, while 52.2% of the high school students and 70% of the adults did so. That is, when discussing treatment for psychological disturbances, subjects were much more apt to discuss therapy than to discuss institutions.

Interviews were examined for references to various factors

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Table 9-8

Percentages of Subjects Mentioning Various Interventions, Cures, Adaptations Related To Psychological Disturbances

	Age Group				
	Preschool	Primary	Junior High	High School	Adult
Institutions	-	-	0	0	20.0
Psychotherapy	-	-	27.3	52.2	70.0
Interpersonal milieu cures	-	-	18.2	45.5	22.2
Concrete environmental change cures	-	-	9.1	9.1	22.2
Insight cures	-	-	0	22.7	22.2
Surgery, shock, insulin coma	-	-	0	0	10.0
Drugs	-	-	9.1	0	50.0
"Just get better"	-	-	0	0	11.1
Other cures	-	-	0	0	22.2
Psychological adaptation	-	-	0	0	67.7

Note. Percentages are based on numbers of subjects in each group expressing at least minimal awareness of each handicap, not on total numbers of subjects.

that may lead to amelioration or cure of psychological disturbances. What particular events or interventions, within therapy or not, did subjects mention?

The only particular factors mentioned with high frequency by subjects in any group were as follows: Half of the adults mentioned psychoactive drugs. Nearly half of the high school students mentioned factors in the interpersonal milieu (e.g., better communication with people, improving relationships with people). All other factors were mentioned by 22.7% or fewer of the subjects in a group.

The junior high school students seldom referred to these interventions. The only ones mentioned by that group as a whole were the interpersonal milieu (18.2%), concrete environmental changes (9.1%), drugs (9.1%), and vague medical intervention [e.g., see a doctor], (9.1%).

High school students mentioned interpersonal milieu factors frequently (45.5%). References to insight as a mechanism of cure also occurred in the high school group (22.7%). Finally, 9.1% mentioned concrete environmental changes.

Adults, in contrast, mentioned a wide variety of factors: drugs (50.0%); the interpersonal milieu (22.2%); concrete environmental changes (22.2%); insight (22.2%); psychosurgery, electroshock, insulin coma (10.0%); "just getting better" (11.1%); and miscellaneous other interventions (22.2%).

Psychological Adaptations

As is the case for discussions of other handicaps as well, references to psychological adaptation to psychological disturbances were a characteristically adult feature of interviews. While 66.7% of the adults referred to "learning to live with it," or to some other kinds of psychological adaptation, none of the younger subjects did so.

Summary

The results concerning discussions of cures, interventions, and adaptations involving psychological disturbance should be compared with results concerning subjects' views of the prognosis of psychological disturbances. Specifically, although high school students and adults were overwhelmingly realistic or optimistic about the possibilities of treating or curing psychological disturbances, their descriptions of how such intervention or cure might be accomplished were not particularly detailed. That is, the data present a picture compatible with the intuitive impression one formed during interviewing: While subjects were confident that psychological disturbances were treatable, they were vague about how psychological change might be effected. Although they referred to therapy, they did not often spell out how therapy might be expected to work.

CHAPTER 10. IMAGES OF HANDICAPPED PEOPLE AND AFFECT EXPRESSED TOWARD THEM

In discussing expressions of attitudes toward handicapped people, this report departs considerably from traditional approaches to the topic. Specifically, these attitudes are not treated as belonging on a positive-to-negative continuum. Rather, they are described by means of a number of nominal variables.

The reason a positive-to-negative continuum is avoided is twofold. First, empirically, the attitudes expressed by subjects toward handicapped people simply did not seem to fit on such a continuum. People expressed discrete stances, some of which were not clearly one or the other.

Second, it is not clear what a "positive attitude toward handicapped people" is, at least in the context of these interview data. "Negative attitudes" are easier to define and to recognize than are positive attitudes; a subject who expresses disgust about handicapped people or who speaks in a patronizing way expresses a negative attitude. In contrast, comparable expressions of positive sentiments are not necessarily agreeable to handicapped people. For instance, to use an extreme and ficticious sample, "All blind people are wonderful" is not to positive attitudes what "All blind people are horrible" is to negative attitudes. Specifically, the categorization implicit in the phrase "all blind people..." is offensive, even when the ideas expressed about "all blind people" are pleasant ones.

The impression one gains from the interviews themselves is that, to some extent, the most positive attitude one hears is no global attitude at all. A matter-of-fact, attitude-free approach seems to be more "positive" than any global statement of warm feelings. A second "positive" attitude might be called "identification." That is, it seems genuinely positive to speak from the viewpoint of people who are handicapped.

This report, then, focuses on expressions of negative attitudes (e.g., disgust) and on expressions of certain other attitudes that are not "positive" in the traditional sense of the term. Rather, these are expressions of feelings of identification with handicapped people, reflections on one's own reactions, and such.

Disgust or Revulsion

The literature has sometimes reported expressions of disgust or revulsion for handicapped people. For instance, Engel (1978) describes children's "ugh" reactions to the Boston Children's Museum's introductory curriculum material on physical disabilities.

Interviews were examined for any expressions of strong "ugh" reactions, disgust, or revulsion toward people with any kind of handicap. These results are not, of course, comparable with those of Engel (1978) or with other reports of reactions to face-to-face contact or pictures. Rather, they are based on discussions taking place without handicapped people present and without concrete materials.

Few subjects displayed these strong negative reactions. These were as follows: Two high school students expressed such reactions toward orthopedically handicapped people. One adult expressed such a reaction to blind people; one adult, toward mentally retarded people; and one adult, toward orthopedically handicapped and toward psychologically disturbed people.

In short, strong negative feelings toward handicapped people were rarely expressed, and never expressed by children younger than high school age.

Expressions of Fear and Pity

Unfortunately, interrater agreement was unacceptably low for the coding of expressions of fear and of pity toward deaf people and orthopedically handicapped people. The results presented in this section, then, pertain only to blind people, mentally retarded people, and psychologically disturbed people.

Table 10-1 shows the percentages of subjects in each group at least minimally aware of these handicaps who expressed fear of people with these handicaps and 10-2, those who expressed pity.

Expressions of fear were not observed in interviews with preschoolers and primary grade children. Only one junior high subject expressed fear (of blind people). Of the high school students, 29.2% expressed fear of blind people, 17.4% of psychologically disturbed people, and 4.3 (n=1) of mentally retarded people. Adults, in contrast, expressed fear rather often: 55.5%, of psychologically disturbed people, 36.4%, of blind people, and 18.2% of mentally retarded people.

Table 10-1

Percentages of Subjects Expressing Fear of Blind, Mentally Retarded, and Psychologically Disturbed People

Handicapped Group	Age Group				
	Preschool	Primary	Junior High	High School	Adult
Blind people	0	0	4.8	29.2	36.4
Mentally retarded people	-	0	0	4.3	18.2
Psychologically disturbed people	-	-	0	17.4	55.5

Note. Percentages are based on numbers of subjects in each age group expressing at least minimal awareness of a handicap, not on total numbers of subjects.

Table 10-2

Percentages of Subjects Expressing Pity for Blind, Mentally Retarded, and Psychologically Disturbed People

Handicapped Group	Age Group				
	Preschool	Primary	Junior High	High School	Adult
Blind people	0	3.8	23.8	25.0	54.6
Mentally retarded people	-	10.0	14.3	8.7	18.2
Psychologically disturbed people	-	-	0	0	22.2

Note. Percentages are based on numbers of subjects in each age group expressing at least minimal awareness of a handicap, not on total numbers of subjects.

Expressions of pity were somewhat more frequent among the younger children than were expressions of fear, although they were still quite rare. No preschoolers expressed pity for the blind. One primary grade child expressed pity for blind people, one for mentally retarded people. Junior high and high school subjects sometimes expressed pity for blind people, and less frequently for mentally retarded people. They did not express pity for psychologically handicapped people. Expressions of pity for blind people were fairly common among the adults (54.6%), while pity for the mentally retarded and the psychologically disturbed was expressed less frequently.

Both fear and pity are evident in the following:

Question:	What do other people think about blind people?
Answer:	Most people look at a blind person and I think they feel sorry for him...They don't have something we do--at least that's how I feel--they can't see everything. People say, "Oh, that's green." If a person has been blind all their life, they don't know even what that is. I think I more or less feel sorry for them. Other people might just think they're a problem, in the way, not as good as I am, can't see. Especially born blind and also if I turned blind that would be very hard because I'm so used to seeing my way with my eyesight so much. If I was ever blind right now it would be very, very difficult. I would probably pity myself at first and somehow get through it. It'd be tough. I'm really fearful of people that are blind. (age 17)

Condescension

Expressions of condescension are somewhat different from expressions of pity. Rather than feeling sorry for people with a handicap, the subject who condescends or patronizes speaks of handicapped people almost as if they were less than full human beings. The subject "talks down" when he talks about these people.

Interrater agreement was sufficient to permit examination of the data for expressions of condescending attitudes toward orthopedically handicapped, mentally retarded, and psychologically disturbed people. Table 10-3 shows the percentages of subjects in each group discussing each handicap who spoke in a condescending or patronizing way. Such attitudes were uncommon in subjects younger than the high school students. These attitudes were fairly common only in one instance: adult discussions of mental retardation. They were observed less frequently when adults talked about orthopedically handicapped people and psychologically disturbed people, and when high school students discussed orthopedically handicapped people.

Awkward Discomfort

An attitude of "awkward discomfort," for the purpose of this study, is one of unease, embarrassment, and uncertainty about what to do. While at first glance one might term this attitude "negative," it actually refers to expressions of the subject's feelings about himself or herself, rather than to feelings about handicapped people.

Table 10-4 shows the percentage of subjects in each group who expressed such awkward discomfort in relation to people with each of the five handicaps. (Percentages throughout this report are based on subjects in a group who discussed a handicap at all, not total numbers of subjects.)

Table 10-3

Percentages of Subjects Expressing Condescending Or Patronizing Attitudes

	Age Group				
Handicap	Preschool	Primary	Junior High	High School	Adult
Orthopedic	0	0	9.5	26.1	18.2
Mental retardation	-	0	4.8	4.3	45.5
Psychological disturbance	-	-	0	8.7	22.2

Note. Percentages are based on numbers of subjects in each age group expressing at least minimal awareness of a handicap, not on total numbers of subjects.

Table 10-4

Percentages of Subjects Describing Awkward Discomfort in Relation To Handicapped People

	Age Group				
Handicapped Group	Preschool	Primary	Junior High	High School	Adult
Blind	-	-	14.3	16.7	54.5
Deaf	-	-	0	12.5	18.2
Orthopedically handicapped	-	-	0	0	18.2
Mentally retarded	-	-	9.5	8.7	27.3
Psychologically disturbed	-	-	0	4.3	55.6

Note. Percentages are based on numbers of subjects in each age group expressing at least minimal awareness of a handicap, not on total numbers of subjects.

These uncertain feelings were first observed in the junior high age group; 14.3% of those subjects expressed such feelings in relation to blind people, 9.5% in relation to mentally retarded people. High school students also occasionally expressed this attitude in relation to blind people (16.7%); deaf people (12.5%); mentally retarded people (8.7%); and psychologically disturbed people (4.3%). Adults, in contrast, expressed this attitude frequently when discussing blind people and psychologically disturbed people, less frequently when discussing people with other handicaps.

In short, older subjects were more apt than younger subjects to describe or express feelings of not knowing what to do, uncertainty, awkwardness, and such. In general, blind people seem somewhat more apt than other handicapped people to arouse these feelings, although adults also reported this attitude in relation to psychologically disturbed people.

Cynicism

A stance that might be described as the opposite of pity is cynicism. Specifically, a "cynical" attitude, for the purpose of this report, refers to expressions of the idea that handicapped people "use the handicap" to gain special favor, to manipulate other people, and for other such purposes.

This attitude was observed in junior high subjects when discussing orthopedic handicaps (23.8%) and mental retardation (9.5%). It was expressed by high school-age subjects when discussing psychological disturbances (13.0%). It was expressed by adults discussing blindness (18.2%), deafness (18.2%), and psychological disturbances (33.3%).

As these results show, the preschool and primary-grade children did not discuss hidden motives or manipulative behaviors. These kinds of psychological interpretations of behaviors emerged only in the junior high group, and then, mainly in relation to orthopedic handicaps. The high school students' and adults' references to "using the handicap" and such may be interpreted not so much as cynical attitudes per se, as descriptions of "secondary gain." That is, psychologists describe some pathological behaviors as motivated or reinforced by their outcomes or effects on other people. Consequently, this "cynical" attitude in regard to psychological disturbances differs from the same kind of attitude toward other handicaps in that professionals express the same attitude.

The Handicapped as Harmful

Of the many stereotyped images of handicapped people presented on television and in film, the depiction of villains as in some way handicapped is perhaps the most obviously offensive. This image of handicapped people as harmful or potentially harmful cannot be blamed upon the current entertainment industry, since the stereotype is an age-old one. Furthermore, the theme is not specific to any handicap; it emerges in relation to the five kinds of handicaps that are the focus of this study, and in relation to other handicaps (e.g., epilepsy) as well.

Interviews were examined for expressions of the idea that people with any handicap(s) are harmful or potentially harmful. The results are shown in Table 10-5. No preschoolers or primary grade children suggested that any handicapped people are harmful or potentially so. In contrast, 28.6% of the junior high students, 30.4% of the high school students, and 81.9% of the adults did so.

Roughly two-thirds of the subjects mentioning that handicapped people are harmful or potentially so did so in relation to psychological disturbances. (Several of these subjects mentioned other handicaps as well.) Of the five handicaps that are the focus of this study, psychological disturbance is the only one that actually does, in some cases, involve harmful behavior. Descriptions of psychologically disturbed people as harmful or potentially so may reflect reality, although, clearly, many kinds of psychological disturbance do not involve any potential harm to other people. These results seem to reflect such a realistic perception rather than a stereotyping of all psychologically disturbed people as dangerous.

Expressions of the idea that people with other handicaps are harmful or potentially so, do, however, seem to indicate some stereotyping. The picture that emerges from results is one in which this stereotyping emerges rather late in development, not until after the primary grade years.

Among the junior high subjects, expressions of the idea were related mainly to mental retardation: 19.0% (n=4) of the junior high subjects raised the theme that mentally retarded people may be harmful to others. Among junior high and older

Table 10-5

Percentages of Subjects Who Said Or Suggested That Handicapped People Are Harmful or Potentially Harmful

Handicapped Group	Age Group				
	Preschool	Primary	Junior High	High School	Adult
Blind	0	0	0	0	9.1
Deaf	0	0	4.8	0	18.2
Mentally retarded	0	0	19.0	0	0
Psychologically disturbed	0	0	4.8	21.7	45.5
Blind and psychologically disturbed	0	0	0	8.7	0
Mentally retarded and psychologically disturbed	0	0	0	0	9.1

Note. Percentages are based on numbers of subjects in each age group expressing at least minimal awareness of a handicap, not on total numbers of subjects.

subjects, however, the theme was not confined to discussions of psychological disturbance and mental retardation; it was raised, although rarely, in relation to all the handicaps except orthopedic handicaps. That is, subjects did not convey the image of villains as physically handicapped that sometimes appears in television shows and films.

In summary, the belief that handicapped people are harmful was stated by older subjects (junior high, high school, and adult subjects), not by younger subjects. It was raised mainly in accurate fashion; acting out disorders may, in fact, involve danger to people. It was not, however, confined to psychological disturbances. Few subjects raised the theme in relation to handicaps other than psychological disturbance, and none did so in relation to orthopedic handicaps.

These results show that this theme is not a frequent one. It is noteworthy, however, when one considers the nature of the population of this study. In a group of bright, well-educated subjects, it is surprising to discover the emergence of this theme at all.

The following excerpt illustrates the idea that blind people are harmful, although the subject clearly rejects this idea. The subject is responding to a question how her peers would react to a blind girl:

> Answer: She'd be looked at different, and even though people would try to help her, a lot of people would be afraid of her, you know that she was gonna do something or hurt them in some way, even though she wouldn't, they'd kind of keep away from her.

The Handicapped as Dependent or Needing Help

One image of handicapped people prevalent in television shows and the media is an image of handicapped people as highly dependent. In general this theme of helplessness, dependency, non-self-sufficiency is part of the depiction of handicapped people as "nonpersons," which Leonard (1978) describes as characterizing television portrayals.

Interviews were coded for two kinds of references to this theme: (a) descriptions of handicapped people as needing a great deal of help (not specialized help, such as needing to learn Braille) and (b) descriptions of handicapped people as very dependent. For both variables, only references to interpersonal help or dependency were coded. Descriptions of dependency of objects were not included (e.g., not dependency on wheelchairs, Braille). Interrater reliability was acceptable for discussions of these issues regarding blindness, orthopedic handicaps, mental retardation, and psychological disturbances, but not deafness.

Tables 10-6 and 10-7 show percentages of subjects in each age group raising helping and dependency themes in relation to each of these four handicaps. In most instances, these themes were mentioned by considerably higher proportions of adults than of younger subjects. This difference is particularly striking for dependency themes.

The helping theme: Further results. Subjects raised themes of helping not only in discussions of separate kinds of handicaps,

Table 10-6

Percentages Of Subjects Raising the Theme That Handicapped People Need A Great Deal of Help

	Age Group				
Handicap	Preschool	Primary	Junior High	High School	Adult
Blindness	0	11.5	23.8	37.5	60.0
Deafness	-	-	-	-	-
Orthopedic handicap	15.4	13.0	28.6	34.7	27.3
Mental retardation	0	10.0	14.3	17.4	45.5
Psychological disturbance	0	0	18.2	30.4	44.4

Note. Percentages are based on numbers of subjects in each age group expressing at least minimal awareness of a handicap, not on total numbers of subjects.

Table 10-7

Percentages Of Subjects Raising The Theme That Handicapped People Are Dependent

	Age Group				
Handicap	Preschool	Primary	Junior High	High School	Adult
Blindness	0	3.8	19.1	16.6	40.0
Deafness	-	-	-	-	-
Orthopedic handicap	7.7	8.6	14.3	8.6	45.5
Mental retardation	0	10.0	28.6	4.3	63.7
Psychological disturbance	0	0	9.1	8.7	33.3

Note. Percentages are based on numbers of subjects in each age group expressing at least minimal awareness of a handicap, not on total numbers of subjects.

but in discussing characters described in a brief story as well. The story described two children who live next door to one another. One child is blind, the other deaf. The subjects were asked whether the children go to the same school and play together. They were prompted to discuss what the children might do together and what it might be hard for them to do. (Results pertaining to some aspects of responses to the story are presented elsewhere in this report.)

In responding to this story, rather high percentages of subjects remarked that the children could help or benefit one another. Some of these responses were concrete and practical (e.g., they could see and hear for each other). Others were abstract (e.g., they would make one another feel secure). This idea that the children would help or benefit one another was mentioned by one preschooler; 15.4% of the primary-grade subjects; 57.1% of the junior high subjects; 36.4% of the high school subjects; and 36.4% of the adults.

These results seem to confirm the impression created by results concerning discussions of specific handicaps. In this story context, as well as in focused discussions of particular handicaps, the helping theme was quite popular.

The reader should note that in the story context, these references to "helping" were made in a way that often overrides the facts of the story. Specifically, it is, in fact, difficult for a blind and a deaf child to help one another unless they can communicate in some way. The "help" must be communicated only by means of touching. The happy notion that one can see, one can hear, so they can see and hear for each other is possible only under the special circumstance that the children share a system of communication. Very few subjects noted the extreme difficulty the children would have in communication.

Emotionality

Psychological disturbances may, of course, be defined partly in terms of affective characteristics of people (e.g., flat affect, hyperemotionality, depression). To mention differences between emotionally disturbed people and other people in emotionality, then, is realistic and appropriate.

Subjects also discussed the emotional characteristics of people with other kinds of handicaps. In particular, subjects sometimes seemed to portray handicapped poeple as generally more emotional than other people; more emotionally fragile; more likely to have their feelings hurt; and, in general, more vulnerable to affective states than other people.

Since this characterization seemed an important one from subjects' viewpoint, interviews were coded for references to these kinds of characteristics. Interrater reliability for the coding of this variable was acceptable for blindness, mental retardation, and psychological disturbances.

Table 10-8 shows the percentage of subjects in each age group discussing each of these three handicaps who portrayed blind people, mentally retarded people, and psychologically disturbed people as more emotional than others, more in touch with feeling states, and such.

Not surprisingly, high percentages of adults and high school students characterized psychologically disturbed people in this way, while about one-third of the junior high subjects did so. The characterization of affective aspects of psychological disturbances in this particular way is somewhat appropriate. Subjects also made this kind of characterization of mentally retarded people fairly often. (High school students seldom did so.) While not a perfectly appropriate characterization, these references might be interpreted in some ways as references to problems related to adaptive behavior in mentally retarded people.

Results pertaining to characterizations of blind people, however, seem to indicate a sterotype or inaccurate belief. Specifically, 81.8% of the adults, 41.7% of the high school group, and 33.3% of the junior high group expressed the idea that blind people are more emotional, more in touch with feelings, and so forth, than are other people. This description was even voiced by a few of the younger children.

In short, the image of blind people as more emotional than other people was a common idea in discussions with adults. It was also quite common in discussions with junior high and high school subjects. This popular theme seems to be connected to several images of blindness described in the literature. One such theme is the idea that blind people are more inner-directed and spiritual than are other people (Monbeck, 1973). There

Table 10-8

Percentages Of Subjects Expressing The Idea That Handicapped People Are More Emotional Than Are Other People

	Age Group				
	Preschool	Primary	Junior High	High School	Adult
Blindness	4.8	7.7	33.3	41.7	81.8
Deafness	-	-	-	-	-
Orthopedic handicap	-	-	-	-	-
Mental retardation	0	40.0	52.4	13.0	45.5
Psychological disturbance	-	-	36.4	86.9	81.8

Note. Percentages are based on numbers of subjects in each group expressing at least minimal awareness of each handicap, not on total numbers of subjects.

seems to be a belief that since blind people cannot look outward, they look inward. Another related idea is the notion that blind people tend to have a greater ability to understand others than do sighted people. For instance, in Lukoff and Whiteman's (1963) high school sample, high percentages of respondents expressed agreement with the statements that blind people have greater ability to understand other people's suffering (77%); that blind people tend to be more understanding than sighted people (77%); and that blind people tend to get a more accurate first impression of others than do most people (71%).

The results presented here suggest that the stereotype of blind people may involve an image of blind people not only as interpersonally sensitive, but more generally, as emotionally sensitive.

The idea that blind people are sensitive in this way might also be interpreted in relation to yet another stereotype: the image of handicapped people as children or as child-like. As Leonard (1978) reports, television portrayals of handicapped people show disproportionately high percentages of handicapped children; a handicapped character is apt to be a handicapped child rather than an adult, and is also apt to be shown in some state or role appropriate to children. The idea of emotionality, then, might be connected to an underlying image of the blind person as a child or child-like person.

Strong Negative Attitudes

Until this point, the focus of the examination of attitudes toward handicapped people has been on discrete stances, images, and feelings rather than on "negative attitudes" as the term is usually used. As noted previously, however, "negative attitudes," unlike positive attitudes, seem to have a reality beyond that created by means of attitude scales. In particular, certain variables used in this study seem to reflect strong negative attitudes: Expressions of feelings of disgust about handicapped people, for instance, would be almost universally interpreted as evidence of negative attitudes, as would statements to the effect that mentally retarded people are not fully human beings.

It is possible, then, to ask whether subjects expressed or did not express negative attitudes like these. How frequent were such attitudes? Did males and females differ in the frequency with which they expressed such attitudes? Do the data suggest the developmental course of such negative attitudes?

Interviews were coded for a variety of expressions of fairly strong negative attitudes toward handicapped people. Interrater agreement was sufficiently high to allow the examination of only some variables reflecting these attitudes. The variables reflecting the negative attitudes used in this examination are as follows: (a) expressions of acceptance or approval of ridicule or teasing of blind people, deaf people, mentally retarded, and psychologically disturbed people; (b) statements that mentally retarded people are not human beings; (c) expressions of negative feelings about mentally retarded people, orthopedically handicapped people, and psychologically disturbed people; and (d) expressions of disgust for people with any handicap.

These variables reflect a callous attitude toward the feelings of handicapped people; the discussion of mentally retarded people as if they were not people; and expressions of negative feelings toward handicapped people. Not included in this examination are variables related to mild or attenuated negative attitudes (e.g., pity or condescension); and variables related to stereotypes.

Results

Of the 103 subjects in this study, 29.1% expressed one or more of these negative attitudes. Only one preschooler did so, and none of the primary grade children did so. In contrast, 47.6% of the junior high subjects, 45.8% of the high school subjects, and 72.7% of the adults did so. That is, only a single child in the two youngest groups expressed any of these negative attitudes; about half of the adolescents expressed one or more; while about three-fourths of the adults expressed one or more of these negative statements.

The reader will note, of course, that the younger subjects were considerably less likely than the older subjects to express awareness that some handicaps exist at all. Is the frequency of negative attitudes among older subjects, then, simply a function of awareness of mental retardation and psychological disturbances? This appears not to be the case, since younger subjects did not express these attitudes about those handicaps of which they were clearly aware, yet older subjects did express negative attitudes related to those handicaps. For instance, 13 preschoolers and 23 primary grade subjects expressed awareness of orthopedic handicaps, yet only 1 of these subjects expressed negative feelings about orthopedically handicapped people. In contrast, 19% of the junior high subjects, 13% of the high school students, and 45.5% of the adults did so.

In the sample as a whole, almost identical percentages of males and females expressed one or more of these negative attitudes: 29.8% of the males, 28.6% of the females. The only age group within which notable sex differences occurred in the expression of these negative attitudes was the junior high group; junior high males were more apt than females to express these attitudes (66.7% and 33.3%, respectively). These percentages, however, are based on relatively small samples. Consequently, this result is merely suggestive.

Besides examining data on whether or not subjects expressed any of these attitudes, one may also examine the number of these attitudes a subject expressed. How many of these negative attitudes did subjects express? Of the 30 subjects expressing any of the attitudes, exactly half expressed only one of those coded; 9 subjects expressed 2; 4 subjects, 3; 1 subject, 5; and one subject, 6. The picture emerging from these results is one of relatively isolated expressions of these attitudes, not a picture of general prejudice. Furthermore, as is generally the case for these data, no sex differences were evident in expressions of more than one of these negative attitudes: similar proportions of males and females exhibited 2, 3, and more of these strong negative attitudes.

Subjects, then, sometimes expressed strongly negative sentiments about handicapped people, exhibited callousness about the ridicule of handicapped people, or otherwise showed clearly negative attitudes. Overall, male and female subjects were equally likely to express such attitudes, although there is some suggestion that junior high males are more apt to express such attitudes than females. In contrast to sex, age is clearly related to the expression of such attitudes: preschool and primary grade children practically never (one subject) expressed such attitudes, while older subjects did so fairly often (roughly half of the adolescents, three-fourths of the small adult sample).

Identification

An increasingly popular term in political organizations for handicapped people is the word "tab," which stands for "temporarily able-bodied." This term indicates handicapped people's awareness of the extent to which the nonhandicapped often seem to regard themselves as distinct and (permanently) different from handicapped people. In this report, "identification" might be called the opposite attitude. That is, subjects might be said to identify themselves with the handicapped if they indicate a sense of being handicapped themselves, being on the side of handicapped people, and such.

Several variables were used in this study that are related to this kind of identification. First, interviews were coded for references to expectations of becoming handicapped, experiences of nearly becoming handicapped, and such. Second, interviews were coded for expressions of advocacy: speaking for the handicapped; arguing from the viewpoint of the handicapped; and such.

Only two subjects in the high school group or younger described any expectation of becoming handicapped or experience of nearly becoming handicapped: One high school student had had an experience related to blindness, while one junior high student had had a long hospitalization for a chronic illness. In contrast, 6 of the 11 adults described these kinds of experiences. Adults mentioned every handicap except mental retardation. As noted elsewhere, 8 of the 11 adults, 2 of the 23 high school students, and no other subjects also expressed the belief that in some way, we are all psychologically disturbed.

It is important not to interpret these results solely as cognitive-developmental differences. Two points should be noted. First, as people live longer, they do, in fact, have various experiences of illness, accidents, and such. Reality is such that an adult is more likely than a child to have had a close brush with some handicapping condition and to have had the expectation of becoming handicapped in some way.

Second, the handicaps themselves actually differ in ways that are related to feelings of identification. For instance, while it is, in some ways, appropriate to say that we are all psychologically disturbed, it is not true that we are all blind, deaf, orthopedically handicapped, or mentally retarded. One may feel identified with those who have these latter handicaps. One may see metaphorical ways in which we all have these handicaps. Nevertheless, we do not all have these handicaps. In short, both the fact that adults have lived longer than have children, and the realities of different handicaps, should be noted.

Adults, then, have a higher probability than do children of having had some personal experience related to a handicap. In addition, some handicaps are more likely than others to be within or related to people's experiences; people are more likely to experience some kind of psychological problem than to experience blindness. It is unclear, however, whether these realities account for the large differences in the data in the extent to which adults expressed a sense of being, in some way, psychologically disturbed, and in reports of experiences related to handicaps. It is not clear whether the differences with age in reports of experiences are a function of the adults' tendency to be aware of experiences or to report experiences as related to handicaps.

Advocacy. Unfortunately, interrater reliability for the coding of expression of advocacy (speaking as an advocate for handicapped people) was acceptable only for material related to mental retardation and psychological disturbances. For both of these handicaps, percentages of subjects who spoke as advocates for the handicapped increased with increases in age. With regard to mental retardation, 10.0% of the primary-grade subjects, 19.0% of the junior high subjects, 34.8% of the high school subjects, and 63.6% of the adults spoke as advocates. With regard to psychological disturbances, 18.2% of the junior high subjects, 26.1% of the high school subjects, and 77.8% of the adults spoke as advocates.

Discussion

To the extent that these variables reflect feelings of identification with handicapped people, it is clear that such identification is largely an adult phenomenon. Reports of personal experiences of nearly becoming handicapped or expectations of becoming handicapped, statements that we are all psychologically disturbed, and expressions of advocacy were all dramatically more frequent in the adult group than in the younger groups.

It is interesting to compare this picture of adults as in some way identifying with some groups of handicapped people, with data on expressions of awareness of handicaps. Specifically, preschool children did not express the idea that many groups of handicapped people are distinct groups of people. They seemed to be utterly unaware that some handicaps exist. At times, they conveyed the impression of having only a fleeting grasp of the reality of those handicaps they discussed. In short, they did not depict people as classifiable into distinct handicapped-nonhandicapped groups.

In contrast, primary grade and junior high students were much more apt than preschoolers to recognize handicaps and to talk unambiguously about groups of handicapped people. They did not, however, seem to identify themselves as members of these groups and did not frequently seem to identify with the handicapped. High school students were clearly aware of all the handicaps of interest in this study, sometimes spoke as advocates for handicapped people, but did not frequently express the idea that "we are all psychologically disturbed" and did not frequently report personal experiences of nearly becoming handicapped or expecting to become handicapped. Finally, adults not only expressed clear awareness of handicaps, but also, seemed to see themselves as not so totally separate from all groups of handicapped people as did the younger subjects.

This picture suggests that preschoolers show a lack of differentiation between the handicapped and nonhandicapped in the sense that one cannot see oneself as distinct from and different from a group of people unless one recognizes that group. Once the categorization of people into distinct groups appears, that categorization seems to bring with it a sense of personal separateness. Finally, in adulthood, there seems to be an integration of the categorization of people into handicapped groups and the recognition that this categorization is flexible.

The following excerpts from adult interviews illustrate the characteristically adult sense that categorization of people as psychologically disturbed is relative, and that is some ways, we are all handicapped:

A. Question: Do you know anyone who has emotional problems?

Answer: Yeah, everybody has emotional problems. We all have friends who at some time or other needed support.

B. Question: Do you know anyone with emotional problems?

Answer: Yes, indeed, of course. It depends on what you mean by emotional problems. If you're talking about emotional problems that are really disabling so a person can't function, can't work, can't have a relationship with another human being, that's one thing. But if you're talking about the kind of general neurotic problems that we all have, but all manage to get along with, that's another thing altogether. Quite honestly, I don't really want to comment on it. It's just too broad... I just really feel that to some degree or other everybody has emotional problems. There's just no way one can get through life without them, and therefore it seems that these same kinds of questions are to me meaningless.

C. Question: Do you know anyone who has emotional problems?

Answer: Define "emotional problems"... I don't like the term. Does a kid who's afraid to go to school, etc., have emotional problems?

Question: So you're saying it's too open-ended?

Answer: Right...Everyone I know is neurotic.

D. Question: Do you know anybody with emotional problems?

Answer: (Laughs) It depends upon what you mean. I know a lot of people who have emotional problems; I think everybody has emotional problems. There are three steps: emotional problems like everybody has, emotional problems like you worry a little bit, and emotional problems like you know they're gonzo.

E. Question: Do you know anyone with emotional problems?

Answer: Yes, everybody I know has emotional problems. (Laugh) You mean severe emotional problems? That impair your ability to function?

CHAPTER 11. WHAT WOULD IT BE LIKE TO HAVE A HANDICAP?

Subjects were asked what it would be like to have each handicap they discussed. Results presented in this chapter summarize both responses to those questions and impressions offered spontaneously.

These results consist of material related to several different aspects of subjects' images of what it would be like to be handicapped. "What it would be like" is a phrase that conveys many different kinds of meanings--what it would be like emotionally, socially, and so forth. Some of these results are of interest mainly in relation to a single handicap. For instance, the stereotype of blindness as a world of darkness is handicap-specific. Others pertain to all handicaps. For instance, the idea that it would be hard or "no fun" may pertain to any handicap.

For the sake of clarity of presentation, we present the results pertaining to all handicaps, then those pertaining to specific handicaps. Unhappily, the results are less complete than one might wish, since interrater reliability was sometimes satisfactory for some variables only for certain handicaps. When Kappa was unacceptably low, variables were dropped. As a result, information is sometimes available only for material related to certain handicaps and not others. For instance, raters did not reach an acceptable level of agreement for coding whether or not subjects showed fear or pity for deaf people or for orthopedically handicapped people. They did, however, show acceptable agreement when coding these kinds of attitudes toward blind and mentally retarded people, and persons with psychological disturbances. That interrater agreement was sometimes unacceptably low requires little explanation; in a complex system for coding open-ended interviews, coding involves difficult judgments about sometimes ambiguous material. That coders failed to agree about some variables related to matters of affect and attitude is no surprise. It is clear, however, that to present results for those variables, even with caveats concerning low interrater agreement, would be to present results we would have no reason to trust as meaningful. Consequently, the reader must simply share the researcher's frustrations with the loss of the variables discarded because of low interrater agreement.

It would be "hard," "no fun," "strange."

Results presented here reflect statements to the effect that it would somehow be difficult or unpleasant to have a handicap.

Table 11-1 shows the percentages of subjects in each age group who made such statements about each handicap. (Percentages are percentages of subjects in a group who expressed at least minimal awareness of the handicap.) This table shows that many adults made statements like this and did so about all five handicaps. These statements were also offered rather frequently by high school students and junior high students in relation to blindness, deafness, and orthopedic handicaps, but rather infrequently in relation to mental retardation and psychological disturbances. Primary grade children offered such statements about blindess as frequently as did junior high students, but fewer primary grade children than junior high students expressed these ideas about deafness and

Table 11-1

Percentages Of Subjects In Each Group Mentioning That It Would Be Hard, No Fun, Or Strange To Have A Handicap

Handicap	Age Group				
	Preschool	Primary	Junior High	High School	Adult
Blindness	12.5	46.2	47.7	62.5	81.8
Deafness	21.1	38.5	52.4	54.2	72.2
Orthopedic handicap	30.8	30.4	52.4	56.5	81.8
Mental retardation	-	10.0	19.1	13.0	72.2
Psychological disturbance	-	-	0	17.3	60.0

Note. Percentages are based on numbers of subjects expressing at least minimal awareness of a handicap, not on total numbers of subjects.

Table 11-2

Percentages Of Subjects In Each Group Mentioning That It Would Be Frightening To Have A Handicap

Handicap	Age Group				
	Preschool	Primary	Junior High	High School	Adult
Blindness	0	11.5	42.9	41.7	50.0
Deafness	5.3	3.8	4.8	12.5	18.2
Orthopedic handicap	0	0	0	8.6	18.2
Mental retardation	-	0	9.6	0	0
Psychological disturbance	-	-	0	8.7	11.1

Note. Percentages are based on numbers of subjects expressing at least minimal awareness of a handicap, not on total numbers of subjects.

orthopedic handicaps. Finally, preschoolers expressed these ideas rather seldom in comparison with older groups, except when talking about orthopedic handicaps; 30.8% of preschoolers and 30.4% of primary grade children said that it would be "hard," "no fun," "strange," or something like this to have trouble walking. For example:

Question: What would it be like to be deaf?
Answer: They would have a hard time.
Question: A hard time doing what?
Answer: Hearing other people, like the teachers. (age 7)

Question: What would it be like to be blind?
Answer: It wouldn't be very fun. You couldn't see anything. (age 7)

Question: What would it be like to be deaf?
Answer: It would't be fun...and it would be just hard. (age 7)

It Would Be Frightening Or Scary

Table 11-2 shows the percentages of subjects expressing at least minimal awareness of a handicap who indicated a feeling that it would be frightening to have each handicap.

The results presented in Table 11-2 show clearly that this idea was expressed mainly in relation to blindness. Roughly half the adults, high school students, and junior high students said something to the effect that it would be frightening to be blind. Fewer older subjects expressed this idea about other handicaps. Subjects in the two youngest groups infrequently expressed this idea.

In the following excerpt, a subject expresses the idea that blindness would be frightening:

Question: What would it be like to be blind?
Answer: I don't know, I think it would be a little scary to not be able to see anything or see, you are crossing the street and you don't know if a car's coming and I just, to me, it would be very scary, I wouldn't wish it on anyone. (age 15)

You'd Be Sad

Statements that handicapped people are chronically unhappy occupy a borderline area between ideas of what it would be like to have a handicap and perceptions of what handicapped people are like. This belief has received attention in the literature mainly in relation to blindness. The notion that blind people are typically melancholic has been discussed as a popular belief about blindness, and has been related to the image of blindness as a world of (depressing) darkness (see Monbeck, 1973).

The results do not support the idea that people believe the blind to be especially sad. Of the 102 subjects on whom full data were available, 20 depicted some group or groups of handicapped people as notably unhappy. Only 4 of these 20 mentioned the blind. Furthermore, the subjects who described the blind as sad (or said that if blind, one would be sad) were all of junior high age or younger.

This belief was also rarely expressed in relation to deafness and mental retardation. It was slightly more common in relation to orthopedic handicaps: five subjects expressed the idea that orthopedically handicapped people are unhappy.

In contrast, subjects expressed the idea rather frequently about psychological disturbances. Twelve subjects said that psychologically disturbed people are notably unhappy. That is, when subjects portrayed any group of handicapped people as unhappy, they were apt to do so in discussing depression. (Roughly one-fourth of the high school students and one-fourth of the adults expressed this idea about psychological disturbances.)

The view that handicapped people are chronically unhappy occurs in the following:

Question: What do you suppose it would be like to be crippled?
Answer: ...If I was injured for life, I think I'd really be down in the dumps and like I know I couldn't have a good time wandering around and stuff like that, I'd have to sit in a wheelchair and watch every one else having a good time, so it'd be very hurtful and you'd sit there and say "Why me?" (age 15)

Discussion

The results indicate that with increasing age, subjects become more apt to comment on the phenomenological aspects of handicaps: "What it would be like" increasingly came to mean, "how one would feel."

Many adults said that it would be difficult or strange to have each handicap. Such comments were made by other subjects about sensory and physical handicaps rather frequently, but rarely about mental retardation and psychological disturbances.

The only handicap many subjects seemed to regard as frightening to have was blindness. Remarks that it would be frightening to be blind were made by about half of the adults, high school students, and junior high students.

The development of concepts of handicaps, then, involves the development of a concept of the phenomenology of having a handicap.

When preschoolers commented on the phenomenology of handicaps, as they seldom did, they were apt to say that it would be "no fun" or "hard." Primary grade children were much more apt than preschoolers to offer such a comment. The idea that it would be frightening to be handicapped first appears with notable frequency in the junior high age group. These subjects seemed to indicate a differentiation of the diffusely negative feeling that it would be "no fun." Furthermore, from junior high upward in age, subjects clearly made different remarks about the phenomenology of blindness and the phenomenology of other handicaps. That is, junior high age and older subjects often said that it would be frightening to be blind, or mentioned depression in relation to psychological disturbance, and seldom made such comments about other handicaps.

The development of concepts of the phenomenology of handicaps, then, seems to involve (a) the differentiation of specific views from diffuse ones (e.g., frightening as opposed to "no fun") and (b) the differentiation of views of different handicaps (e.g., blindness is frightening).

Special Topics

Doubts Of One's Own Understanding

When asked what it would be like to have a handicap, some subjects, of course, initially responded by saying, "I don't know," and then went on to speculate. Other subjects, however, made clear statements to the effect that they probably were unable to understand fully what it would be like to be handicapped--that a sighted person can only speculate about what it is like to be blind, and so forth. These self-reflective statements were made mainly by older subjects, as cognitive-developmental theory would suggest. As Elkind (1974) for instance discusses, formal operational reasoning permits a person to consider as objects of thought both his own psychological process and those of others.

These statements, then, are of interest mainly in relationship to older subjects' conceptions of the different handicaps. Did subjects seem to experience some kinds of handicaps as easier or harder to understand fully than they did others?

A total of ten subjects made statements expressing doubt about their ability to understand fully the experience of having a handicap--one junior high student, three high school students, and six adults. As Table 11-3 shows, four of these ten people mentioned mental retardation. At least two subjects mentioned each of the other handicaps except orthopedic handicaps. No one mentioned orthopedic handicaps.

These results suggest an interesting direction for further research. Specifically, the subjects in this study were not asked directly whether they were able to comprehend what it would be like to have a handicap. Any mention of this issue was spontaneous. When subjects did raise the issue, they did not do so in relation to orthopedic handicaps. One wonders whether these subjects felt they were able to understand the experience of being orthopedically handicapped better than the experience of having other handicaps.

Table 11-3

Numbers Of Subjects Expressing Doubt Of Own Ability To Understand Fully The Experience Of Being Handicapped

Handicap	Age Group				
	Preschool	Primary	Junior High (n=21)	High School (n=23)	Adult (n=11)
Blindness				1	2
Deafness			1	1	0
Mental retardation					2
Psychological disturbance				1	
Blindness and mental retardation					1
Mental retardation and psychological disturbance					1

Special Gifts

The literature on popular beliefs about handicapped people describes various beliefs that handicapped people have supernormal powers--they are able to see the future, cure the sick, and perform various miracles. A more attenuated form of this popular belief is that handicapped people are (sometimes divinely) compensated for their handicaps by gifts of special ability. For instance, the blind are said to have natural musical ability superior to the sighted. Another idea is that handicapped people somehow "know" more interpersonally than do other people. For instance, Lukoff and Whiteman (1963) found that a high proportion of their high scoool age subjects agreed with a statement that blind people have great powers of interpersonal sensitivity.

There seem to be two somewhat separable components to these beliefs. The first component is an ability one: handicapped people are believed to be able to do things that the rest of us are unable to do. The second component is one of source: the origin of this ability is not a normal, routine one of chance, learning or adaptation, but is mysterious or divine.

Interviews were examined for any statements to the effect that people with any handicaps have these special gifts. Interviews were also examined for any references to handicaps as associated with divine intervention, God's will, or any other religious associations. This coding was performed very broadly; *any* such reference was coded regardless of when the statements were made in the interview.

The results of this coding were largely negative. Two adults attributed special gifts to the blind, one adult to the deaf. One high school student did so in relation to people with psychological disturbances. All of these references were to the attenuated versions of beliefs. People expressed ideas of interpersonal sensitivity but not beliefs in healing powers. Similarly, references to religion were scanty. One junior high student related blindness to religion; one high school student related orthopedic handicaps to religion; one adult related mental retardation to religion; and one adult related both blindness and deafness to religious themes.

Discussion

These results suggest a direction for future research. The belief in special gifts has been described frequently in the literature on popular beliefs. These data show that subjects did not express the belief in its full-blown, dramatic form. The question that arises is whether these beliefs are relatively rare in well-educated subjects, while prevalent in other populations. That is, are the negative results a function of the population studied or of historical change in causal attributions?

A World Of Darkness

A popular belief about blindness discussed in the literature (e.g., Monbeck, 1973) is that blindness is a "world of darkness." Interviews were examined for explicit statements of this belief and other explicit uses of the image of blindness as darkness, (e.g., statements that if one were blind, it would be "all dark," "darkness," and such). As discussed elsewhere (Conant & Budoff, 1979), young children's notions of external objects covering the eyes and various other such ideas may be interpreted as sources of this stereotype or as precursors to it. These kinds of precursors (e.g., ideas of external objects), were not coded as expressions of the world of darkness idea.

Results. Explicit blindness-as-darkness imagery was used largely by adolescent girls (46.7% of the junior high girls, and 35.7% of the high school girls). It was uncommon among preschoolers, primary grade children, and adults, and was used by no adolescent males (one preschool girl, one primary grade boy, and one adult male). Of the 15 subjects using this image, 13 were female; of these 13, 12 were in the junior high or high school groups. For junior high students, the correlation (Pearson's $\underline{r}$) between sex and the use of this image is .45 ($\underline{p} < .02$); for high school students, Pearson's $\underline{r} = .43$ ($\underline{p} < .02$).

The Speech-Hearing Relationship

Interviews were coded for any references to the fact that deaf people have difficulty in producing speech (i.e., that deaf people have productive as well as receptive speech problems). About two-thirds of the adults referred to speech problems of deaf people; 95.8% of the high school students did so; 71.4% of the junior high students; 38.5% of the primary grade subjects; and 21.2% of the preschoolers. That is, when discussing deafness, subjects in the high school group nearly always mentioned productive difficulties.

To the extent that discussions reflect concepts, the productive speech difficulties of deaf people seem to be highly salient aspects of deafness for high school students.

From these data, it is not entirely clear whether or not subjects understood that deafness involves productive speech difficulties. Did subjects not mention these difficulties because the existence of these difficulties goes without saying? Were these difficulties relatively unimportant in the views of subjects?

In order to explore these and other questions related to deafness, subjects were asked the following question at the end of the interview: "Suppose that a person was deaf all of his life and then became able to hear. What would that be like?" Subjects were then prompted to discuss the person's understanding of speech and the production of speech.

Unfortunately, a consistent prompting was not used across all groups. Adults were not prompted to focus on speech, but were encouraged to discuss psychological reactions to the acquisition of hearing. Consequently, results are presented only for the preschool, primary, junior high, and high school groups.

Results. Many of the high school age subjects responded to the question about the acquisition of hearing by stating that speech would in some way be meaningless noise to the previously deaf person, and that the acquisition of hearing would affect the person's own speech (79.0% and 100.0%, respectively). In the junior high age group, half of the subjects said that speech would be noise, and 65.0% that the person's speech would be affected.

Only one primary grade subject said that speech would be incomprehensible, but 26.9% said that the acquisition of hearing would affect speech. Finally, none of the preschoolers said that speech would be meaningless, and only two said that speech would be affected.

A detailed understanding of the speech-hearing relationship involves a recognition that productive speech is related to hearing one's own speech. Consequently, interviews were examined for references to hearing one's own voice as a factor in speech production. While about half of the high school students mentioned hearing one's own voice, only one junior high student did so, and none of the primary grade or preschool subjects did so.

This result is in conflict with results concerning references to hearing one's own voice reported by Horowitz and Rees (1962).

In summary, these results show that while high school students often showed a detailed understanding of the speech-hearing relationship, such understanding was displayed infrequently by younger subjects. In particular, references to hearing one's own voice in relationship to producing speech were made almost exclusively by the high school subjects. The clinical impression one obtains from listening to the interviews is that understanding of the speech-hearing relationship is initially an empirical observation. Young subjects sometimes observed, for instance, that Linda, the Sesame Street character, who is deaf, does not speak as other people do. In a way that is probably difficult for many adults to comprehend, however, this observation of an empirical correspondence did not necessarily entail a search for a causal relationship. That is, preschoolers seemed to express no need to find a logical link between the observation (a) that a person cannot hear and (b), that the person does not speak.

Primary grade children sometimes noted the empirical correspondence, but sought separate causal explanations, as in the following example:

> Question: Why doesn't Linda talk?
> Answer: 'Cause she's deaf. I don't know. Maybe something in her throat...a frog in her throat. (age 7)

Other children, particularly older ones, sometimes referred to the fact that deaf people do not hear speech and therefore have, in effect, no model for production. They stressed not hearing others rather than not hearing oneself.

CHAPTER 12. EVALUATIONS OF HANDICAPPING CONDITIONS

The literature on attitudes toward handicaps and handicapped people conveys the sometimes implicit assumption that it is valid to describe these attitudes on a continuum running from positive to negative. Neither in reading that literature nor in attending to interview material collected during this study has this appeared to be a valid assumption. Rather, the attitudes expressed about handicaps and handicapped people appear to consist of a wide variety of ego syntonic and dystonic emotions, presented in conjunction with a variety of beliefs and images. Depending upon one's theoretical orientation, one may consider many or few of the variables used in this study to be measures of attitudes. To give just one example, results concerning expectations about whether or not handicapped people may marry and have children might be taken as a measure of attitude. In this study, results concerning these expectations are not interpreted as indications of attitude. We believe they do not reflect feelings or evaluations regarding handicapped people in the way that "attitude" measures are intended to do, but represent beliefs or conceptions about the effects of the handicapping condition on the handicapped people.

We have included, however, a number of variables specifically intended to reflect various components of attitudes toward handicaps and handicapped poeple. Following Lukoff and Whiteman (1963), we have drawn a distinction between emotions and evaluations concerning handicaps and those directed toward handicapped people. As Lukoff and Whiteman point out, these two sets of attitudes are somewhat separate. To take an extreme instance, it would clearly be possible for a person to adore his or her blind child, yet feel very negative about the condition of blindness. On the other hand, making inferences about a particular person's attitude is very difficult; it is simply difficult to tell whether people are expressing negative attitudes toward people or toward handicaps.

In short, this study preserves the distinction between attitudes toward handicaps and those toward handicapped people. In other respects, however, it departs sharply from the traditions of attitude research. Rather than presenting results concerning attitudes on a positive-to-negative scale, then, we present results concerning a number of qualitatively different kinds of attitudes subjects expressed, and present responses to a number of different kinds of questions related to attitudes. In Chapter 10, results concerning images of handicapped people and affect related to handicapped people were discussed. This chapter concerns subjects' evaluations of handicapping conditions.

The Hardest and Easiest Handicaps

In order to provide an overview of subjects' evaluations of various handicapping conditions, interviewers asked subjects, at the end of each interview, which handicaps would be the hardest and the easiest to have. Many subjects, of course, found these questions difficult to answer, and many gave complex responses that are difficult to present in succinct form. Some subjects reached no decisions. Others set aside a handicap, then seemed to evaluate the remaining ones. In ranking handicaps on a hard-easy continuum, subjects sometimes excluded some handicaps from the continuum, sometimes lumped some handicaps together, and otherwise dealt with the task in complicated ways.

In short, in interpreting these results concerning decisions about the hardest and easiest handicaps, it is important to remember that any ranking of all five handicaps is a product of interpretation, not a smooth and spontaneous ranking by the subjects.

Coding

In coding responses to questions about the hardest and easiest handicap, coders recorded (a) the handicap a subject decided upon or emphasized if a subject named more than one handicap, or (b) if no emphasis was evident, the two the subject named. For instance, if the subject mentioned one handicap very briefly, then dismissed it to discuss another in detail, the one discussed was coded. If, however, the subject simply said, "Well, blindness or deafness," then the subject was coded as naming both.

Results

A total of 81 subjects provided codable responses to the question about which handicap would be hardest to have. (Because this question was asked at the end of the interview, it was sometimes omitted because of time pressure. Also, some subjects did not respond to the question.) Of these 81 subjects, 36 named blindness as the hardest handicap, and an additional 4 named blindness in conjunction with either deafness or mental retardation. That is, about half of the subjects included blindness in their response to this question.

Blindness was the most frequently named handicap not only for the subjects, overall, but also was the most frequently named by subjects in each separate age group (or tied with others as the most frequent).

Least frequently named was psychological disturbances. Only one adult and two high school students chose psychological disturbances as the hardest handicap. Deafness was also mentioned relatively seldom as the hardest handicap; no adults, one high school student, one junior high student, and six younger subjects named deafness.

Finally, orthopedic handicaps and mental retardation were sometimes mentioned; adults were evenly divided among blindness, orthopedic handicaps, and mental retardation. High school students named mental retardation more often than orthopedic handicaps, as did junior high students. That is, among groups expressing awareness of mental retardation, mental retardation was mentioned quite often.

Results concerning responses to the question concerning the easiest handicap are similar in some ways, but make an additional point about the way in which subjects discussed the hard-easy decision. Specifically, just as very few subjects mentioned psychological disturbances as the hardest handicap, this was also a rare response to the question about the easiest handicap. Only one subject, a high school student, mentioned this as the easiest handicap.

Deafness and orthopedic handicaps were most frequently named as the easiest handicap (by 24 and 22 subjects, respectively). Eleven subjects mentioned blindness, six mental retardation, and one psychological disturbance. In all age groups, deafness and orthopedic handicaps were frequently chosen responses.

Not reflected in these results, the question, "Which handicap would be easiest?" often evoked a puzzled look, and a reply that none would be easy.

Summary

In naming a handicap as the hardest or the easiest, very few subjects named psychological disturbances. This was the case in age groups clearly aware of psychological disturbances, so the result is not a by-product of patterns of awareness of handicaps. One had the clinical impression that subjects did not think of psychological disturbances as hard or easy in the same way they thought of other handicaps as hard or easy.

The single most obvious result concerning decisions about which handicaps would be hard and easy concerns blindness. Blindness was mentioned as the hardest handicap by about half the subjects, although it was occasionally chosen as the easiest.

Furthermore, it was chosen as the hardest or one of the hardest handicaps by all age groups. The high frequency naming blindness is not simply a function of the large number of subjects aware of blindness.

A Fate Worse Than Death

These results, taken in conjunction with the literature concerning attitudes toward blindness, provides some support for speculation that blindness is thought of as the hardest handicap, but there is far from universal agreement on this point.

These results lead to further questions based on speculation about how people feel about blindness. Namely, did subjects discuss blindness as a fate worse than death, as the literature (e.g., Braverman, 1951) suggests might be the case?

Subjects were coded as discussing a handicap as a "fate worse than or as bad as death" if they used such phrases, or said, "I'm not sure I'd want to go on living if...," or otherwise expressed very strong statements of this kind.

In fact, subjects rarely expressed such opinions, and only older subjects did so. The one subject to express this view about blindness was a high school student. In addition, one high school student expressed this view of orthopedic handicaps; and one, of mental retardation. Finally, one adult expressed this view of orthopedic handicaps and mental retardation.

In summary, then, subjects often chose blindness as the hardest handicap; quite seldom as the easiest; but they did not express the idea that blindness "is a fate worse than death."

Avoidance of Topics and Discomfort During Interviews

In considering subjects' evaluation of handicaps, one must consider a variety of ways in which people may convey these evaluations. The results concerning responses to questions about the hardest and easiest handicaps describe their evaluations in one way. Another way people express such feelings, besides making direct, explicit statements, is by means of indirect behaviors during interviews.

Examining evident emotional discomfort and avoidance of topics during interviews are of potential interest for other reasons as well. For instance, some teachers and other educators we talked with during the course of conducting this study expressed the idea that young children might become upset during interviews; teachers seemd to fear that talking about handicaps would be frightening to children.

All interviews were coded for expressions of emotional upset during interviews or for outright avoidance of topics. These events were rare. One primary grade subject seemed to be uncomfortable when discussing orthopedic handicaps. One junior high school-age subject became upset toward the end of the interview; this subject's feeling was not specific to any handicap. Rather, the student felt moved by the thought of how difficult it would be to be handicapped. Finally, 3 of the 11 adults clearly and explicitly cut off discussions of psychological disturbances. These adults made it clear that the interview topics had become intensely personal and they did not want to talk about those topics further.

These results are consonant with other results concerning psychological disturbances. Subjects did not seem to think of psychological disturbances in the same way they thought of other handicaps. They seemed to set this kind of handicap aside as special. In reaching decisions about hardest and easiest handicaps, they seldom mentioned psychological disturbances. Furthermore, the adults often explicitly mentioned thinking everyone is psychologically disturbed in some way. The avoidance of the topic, then, seemed to be another way adults might say, in effect, that psychological disturbances are close to home, personal, not topics to be discussed even with friendly strangers.

Positive and Negative Feelings About Handicaps

For each handicap, subjects were coded (a) as indicating or not indicating any positive aspects or benefits of a handicap, and (b) as expressing or not expressing any negative feelings about the handicapping condition. Interrater reliability for the coding of these variables was acceptable only for some handicaps. Consequently, the results presented in this section pertain only to those handicaps for which reliability was acceptable.

Benefits

As Table 12-1 shows, very few subjects mentioned anything beneficial or positive about being blind, mentally retarded, or psychologically disturbed. That is, while some subjects certainly expressed positive feelings about handicapped individuals and about handicapped people collectively, expressions of positive feeling about the handicap were rare for the handicaps coded with acceptable levels of reliability. Furthermore, only the

Table 12-1

Percentages of Subjects in Each Group Mentioning Any Benefits of a Handicap

Handicap	Age Group Preschool	Primary	Junior High	High School	Adult
Blindness	0	3.8	4.8	12.5	27.3
Mental retardation	-	0	0	0	9.1
Psychological disturbance	-	-	0	4.3	11.1

Note. Percentages are based on numbers of subjects expressing at least minimal awareness of a handicap, not on total numbers of subjects.

Table 12-2

Percentages of Subjects in Each Group Expressing Negative Feelings About Handicapping Conditions

Handicap	Age Group Preschool	Primary	Junior High	High School	Adult
Blindness	19.0	69.2	76.2	91.7	90.9
Orthopedic handicap	38.5	43.5	66.7	78.3	90.0
Psychological disturbance	-	-	9.1	39.1	60.0

Note. Percentages are based on numbers of subjects expressing at least minimal awareness of a handicap, not on total numbers of subjects.

older subjects mentioned benefits with any notable frequency: 27.3% of the adults mentioned something positive about blindness.

Negative Feelings About Conditions

As Table 12-2 shows, many adults and high school students expressed negative feelings about blindness, orthopedic handicaps, and, to a lesser extent, psychological disturbances. From the preschool years upward, the percentage of subjects mentioning negative feelings about blindness and about orthopedic handicaps steadily increases.

Summary

Although interrater agreement for the coding of both positive and negative feelings about handicapping conditions was a problem, the results for handicaps coded with acceptable levels of agreement are clear. While fairly low percentages of subjects mentioned any benefits for the handicaps examined, fairly high percentages of subjects mentioned negative feelings about the handicaps for which agreement was acceptable. Even fairly high percentages of children in the two youngest groups mentioned something to the effect that there would be negative aspects of blindness and of orthopedic handicaps. In general, however, these negative evaluations were not so extreme as previous research has suggested might be the case. While subjects seldom mentioned any potential benefits of being handicapped, they seldom talked about any handicap as a fate worse than or as bad as death.

CHAPTER 13. CONCEPTS OF MENTAL RETARDATION

In this chapter we discuss the subjects' conceptions of mental retardation. As a first concern we wondered what defining characteristics would be mentioned as typical of mentally retarded people. We adopted as a point of departure the classic definition offered by Heber (1961), translated into the lay terms our subjects might use. Specifically, subjects were coded as mentioning in any way (a) cognitive characteristics of mentally retarded people, or (b) impairment to adaptive behavior, or (c) both.

Table 13-1 shows the percentages of subjects in each age group discussing mental retardation who mentioned these characteristics. Our subjects generally mentioned at least one of these characteristics. All of the adult subjects characterized mental retardation as involving both cognitive characteristics and impairment to adaptive behavior, as did half or more of the primary grade, junior high, and high school students who discussed mental retardation. Very few subjects who discussed mental retardation referred to neither of these defining characteristics--20% of the primary grade subjects (n=2), and even smaller percentages of the junior high and high school-age students.

The Characterization of Mentally Retarded People

Our informants did not restrict their characterizations of mentally retarded persons to the lay versions of Heber's (1961) classic definition of mental retardation as involving both cognitive difficulties and an impairment to adaptive behavior.

Table 13-1

Percentages of Subjects Describing Cognitive Characteristics And Impairment To Adaptive Behavior in the Mentally Retarded

	Age Group				
	Preschool (n=1)	Primary (n=10)	Junior High (n=21)	High School (n=23)	Adult (n=11)
Neither	- (1s)	20.0	9.5	8.7	0
Cognitive Characteristics	-	10.0	14.3	26.1	0
Impairment to adaptive behavior	-	20.0	14.3	8.7	0
Both (Heber's definition)	-	50.0	61.9	56.5	100

Note. Percentages are based on numbers of subjects expressing at least minimal awareness of mental retardation.

Interviews were examined for a variety of other descriptions of what mentally retarded people are like. Some of these descriptions are accurate characterizations of people with specific types of mental retardation: For instance, some retarded people do look different from other people, and have language difficulties of some kind. Some descriptions are simply inaccurate; for instance, the idea that mentally retarded people are notably more cheerful than others is such a description.

Results

Table 13-2 shows the percentages of subjects in each age group who showed at least minimal awareness of mental retardation mentioning various characterizations that emerged in the interviews.

Physical Characteristics

References to two physical characteristics were coded: looking different from other people and being clumsy. These are characteristics which accurately describe only a limited number of mentally retarded people. None of the primary grade subjects who discussed mental retardation referred to these characteristics. References to looking different were occasionally observed in the junior high group, and were observed more frequently in the older groups. References to clumsiness were made by 38.1% of the junior high group, 30.4% of the high school group, and 18.2% of the adults.

The point emerging from these results is that the youngest group of subjects discussing mental retardation, the primary grade group, did not provide descriptions of physical difference in appearance or coordination. Attributions of these characteristics

Table 13-2

Percentages of Subjects Offering Various Characterizations Of Mentally Retarded People

Characterization	Age Group Preschool (n=1)	Primary (n=10)	Junior High (n=21)	High School (n=23)	Adult (n=11)
Look different		0	14.3	34.7	26.3
Are clumsy		0	38.1	30.4	18.2
Are more emotional		40.0	52.4	13.0	45.5
Are all very cheerful		0	4.8	4.8	36.4
Act different		50.0	61.9	65.2	36.4
Have speech problems		30.0	66.7	34.8	27.3
Are physically vulnerable--apt to hurt themselves		0	14.3	0	0
Are vulnerable to physical abuse		0	9.5	4.3	0
Are vulnerable to social abuse		0	0	4.3	36.4
Are dependent		10.0	28.6	4.3	63.7
Need help a lot		10.0	14.3	17.4	45.5

Note. Percentages are based on numbers of subjects expressing at least minimal awareness of mental retardation.

were voiced by older subjects. For example:

Question: Could you tell me what mentally retarded means?

Answer: Maybe part of their brain isn't as good as the other part. They don't function as well as other people.

Question: In what kind of ways?

Answer: Their voice will probably be different in some way, deeper or high... Initially, I notice most retarded people all look the same...They have the same look--really small, meek... Usually I always imagine them with glasses because all the ones I ever saw have glasses. (age 12)

Emotional Characteristics

References to two types of emotional difference were coded: descriptions of greater emotionality (e.g., more in touch with feelings, apt to cry easily, emotionally fragile) and descriptions of mentally retarded people as cheerful, always happy, and such. While one might argue that the former characterization has some validity, the idea that mentally retarded people are particularly happy is clearly a stereotype.

The characterization of mentally retarded people as generally more emotional than other people occurred quite frequently among primary grade (40.0%), junior high (52.4%), and adult (45.5%) subjects. It was comparatively rare in the high school group (13.0%). In contrast, the idea that mentally retarded people are all cheerful, particularly happy, and such, was mainly voiced by the adults: 36.4% of the adults expressed this notion, a few junior high and high school students did so, and no primary grade children did.

Behavioral and Social Characteristics

References to mentally retarded poeple as acting different from others (acting "weird," odd, strange, doing specific odd things) were frequent in all groups. Half of the primary grade subjects, 61.9% of the junior high subjects, 65.2% of the high school students, and 36.4% of the adults expressed this idea. This behavioral difference, then, was clearly a salient characteristic of mentally retarded people among the youngest children discussing mental retardation; and remained salient, especially for the adolescent subjects.

References to the mentally retarded as having trouble talking, talking "funny," and otherwise experiencing speech difficulties were also rather common, particularly among junior high students: 30.0% of the primary grade subjects, 66.7% of the junior high students, 34.8% of the high school students, and 27.3% of the adults referred to speech problems.

The reader shold note that the high percentages of subjects referring to speech problems may be an example of what Campbell and Stanley (1963) call "history" as a threat to validity. Specifically, a television program portraying mentally retarded people as having stereotyped articulation disorders was mentioned rather frequently by junior high and high school subjects. The frequent mention of speech problems, then, may reflect the historical accident of the airing of this program just previous to the interviews.

References to two kinds of physical vlunerability were coded:

general physical vulnerability (e.g., they hurt themselves a lot) and references to vulnerability to physical abuse by other people (e.g., are apt to be attacked physically). Only the adolescent subjects referred to these characteristics, and then, rather infrequently.

In contrast, references to social abuse (exploitation, vulnerability to being cheated) were made by about one-third of the adults, by one high school student, and by no other subjects.

Finally, interviews were examined for references to the idea that mentally retarded people (a) are generally dependent (e.g., statements that they are dependent, portrayals of mentally retarded people in dependent situations), and (b) are in need of more help than other people. Both of these ideas were expressed by rather large percentages of adults and smaller percentages of younger subjects.

The Don't Know They're Retarded

One stereotyped idea about the experience of mentally retarded people is that of obliviousness to the handicap. This belief is that mental retardation differs from other handicaps in that it protects one from the knowledge that one is handicapped.

While no primary grade subjects discussing mental retardation raised this idea, 9.5% (two) of the junior high subjects, 13.0% of the high school group, and 45.5% of the adults expressed the belief that mentally retarded people are unaware of being retarded.

These percentages are surprisingly high when one considers the nature of the population used in this study, suggesting this is a widespread conception in the population.

The Personhood of Mentally Retarded People

In dramatic instances, one sometimes hears expressions of doubt about the personhood of mentally retarded people. That is, people occasionally question the extent to which mentally retarded people are as much a part of the human race as is everyone else. Clearly, the person who asserts that mentally retarded people are not people expresses an extreme form of this sentiment. One occasionally hears the issue raised, however.

This issue was raised by five subjects in this study, two junior high students, and three adults. Of these five subjects, four raised the issue and decided that mentally retarded people are people. Only one subject, an adult, asserted that mentally retarded people are not fully human.

Cultural-Familial Retardation

As noted in Chapter 7, subjects seemed to overemphasize organic causes of mental retardation and to underemphasize cultural-familial causes. Because our impressions during interviewing, together with impressions formed in informal observations, suggested that even older subjects might view mental retardation as mainly organic in origin, coding pertaining to the organic and/or cultural-familial nature of mental retardation was performed in two separate ways.

First, interviews were coded in a very broad fashion for any mention of anything related to a cultural-familial picture of mental retardation. That is, a subject was coded as mentioning such a cause if he or she even hinted at one.

Second, subjects were coded as presenting an overall organic, cultural-familial, or both organic and cultural-familial picture of mental retardation.

The results for both variables are similar and dramatic. Only nine subjects even hinted at any cultural-familial cause of mental retardation, two junior high school students, three high school students, and four adults. Both of those junior high subjects discussed mental retardation as both organic and cultural-familial, as did three of the high school students, and two of the adults. A single adult discussed mental retardation as mainly cultural-familial. The prevailing view presented was that mental retardation is organic in origin.

The Down's Syndrome Image

People with Down's syndrome are commonly portrayed in the media as typical of mentally retarded people. The image of mentally retarded people as people with Down's syndrome sometimes occurred in interviews, as in the following:

> Quite often, I'm not sure why this is, they [mentally retarded people] have slanted eyes. And their faces look like they're retarded. (age 15).

Interviews were coded for statements that all or most mentally retarded people look alike, share Down's syndrome features, and such, as in the above example.

Results show that descriptions of mentally retarded people in terms of a Down's syndrome image were not common. Only four subjects (one junior high student, two high school students, and one adult) seemed to depict mentally retarded people in this way. The heavily organic view of mental retardation, then, seemed not to be restricted to or molded by the image of the person with Down's syndrome. Rather, the organic view seemed to be less specific than the Down's syndrome image.

Confusions in Understanding

As discussed elsewhere in this report, 14.3% of the junior high subjects and 30.4% of the high school-age subjects seemed to confuse concepts of mental retardation and of psychological disturbances. Specifically, these subjects attributed the defining characteristics of one of these handicaps to people with the other.

Other areas of vagueness or confusion were also evident in discussions of mental retardation. Specifically, 9.5% of the junior high subjects and 17.3% of the high school subjects seemed to confuse mental retardation with learning disabilities.

In reporting these results, it is important to stress that these adolescent subjects seemed not to make a sharp distinction between mental retardation and these other handicaps. The results do not mean subjects conveyed a sharp image of mental retardation, but thought that learning disabilities co-occurred with mental retardation. Rather, the impression created during many of these interviews was of considerable diffuseness. Concepts sometimes seemed to be diffuse ones of something wrong mentally, rather than specific ones involving distinctions among learning disabilities, mental retardation, and psychological disturbance.

One area of confusion or muddiness in some adolescents' concepts of mental retardation was related to the word slow. This term was used fairly often in reference to mental retardation. Its meaning seems to be misleading to some adolescents. Specifically, some adolescent subjects interpreted the term quite concretely to mean, in effect, that people who are "slow" take longer than other people to learn things, but eventually catch up completely with their peers. These subjects sometimes seemed to make a rather sharp distinction between "slowness" and mental retardation in a way that professionals do not. For instance, one subject described a girl who is in a special class:

> She's in that class 'cause she can't learn as fast as I can, so she goes in special class so she won't be retarded. (age 11)

Another subject discussed the idea of "slowness" at some length:

> He was slow...He didn't learn things as fast as other people. He was just learning how to take the bus home himself...Their minds just don't learn as much as they want to learn.

The same subject was then asked whether she had ever heard the words "mentally retarded." She replied:

> They can't talk right. They can't walk well. And they can't learn, have to go to special classes. (age 12)

That is, some adolescents seemed to have quite separate concepts of "slowness" and of "mental retardation." Rather than discussing mental retardation in terms of different degrees, these subjects seemed to think of "slowness" and "mental retardation" as separate, different, and unrelated. In effect, adolescents sometimes seemed to use nominal rather than ordinal scales in discussing the two concepts.

The popularity of the term slow and the confusion it sometimes creates are important mainly because of the great interest in the issue of labeling mentally retarded people. Considerable research effort has been directed toward the impact of labeling children as mentally retarded; much less toward the impact of informal labels. The term slow seems to be an informal but nonderogatory label, and one with considerable popularity among children. There has been little effort to identify and to understand the informal labels children use to characterize and to account for the behavior of the mentally retarded peers. Research directed at this topic might well investigate the effects of the label slow on nonhandicapped children's reactions to peers.

Summary

To the extent that the interviews accurately reflect subjects' concepts, the development of concepts of mentally retarded people appears not to be one of clearly increasing realism. Characterizations of mentally retarded people that have general accuracy (e.g., the idea that mentally retarded people have speech difficulties), do not show a simple increase in frequency with increasing age of subjects. References to speech problems were made by about two-thirds of the junior high students, but only about one-third of the subjects in each of the older groups. Inaccurate, stereotyped portrayals (e.g., the idea that mentally retarded people are very cheerful) do not seem to decline with increasing age; about one-third of the adults offered this stereotyped characterization, while few of the younger subjects did so. Two of the characteristics discussed show a marked drop in frequency among high school students, and an increase among adults: depictions of mentally retarded people as particularly emotional and as particularly dependent.

These rather complex results suggest one major point about the development of concepts of mentally retarded people: Adult discussions and those of older students seem not to serve as a standard for "mature" concepts. The general picture emerging from the data is not one in which references to appropriate characterizations increase; nor one in which references to inappropriate characterizations decrease with increasing age. Rather, some generally correct characterizations were mentioned by higher proportions of young subjects than of older subjects; and some inaccurate stereotypes were mentioned by adults notably more than by children.

CHAPTER 14. RESPONSES TO A STORY DILEMMA ABOUT MAINSTREAMING

Subjects were not questioned specifically about mainstreaming. Rather, they were told a brief story, presented below, and asked (a) where the child in the story should go to school, and (b) what it would be like if he were sent to a regular school. The purpose of using this story was not only to elicit opinions about mainstreaming, but also to elicit reactions to a behaviorally-described character with problems like those of many mainstreamed children.

The story and questions used are as follows:

Story: Mr. and Mrs. Lincoln have a child, Joe, who acts like a really little kid, even though he isn't. He has a hard time talking. He acts kind of strange. His parents have to decide whether to send him to a regular school, (like the one you go to), or whether to send him to a special school for children with problems.

Question: Which do you think they should send him to? Why?

Question: What would it be like if they sent him to the regular school? Why?

There were two clarifications subjects sometimes requested about the story. First, children sometimes asked how old the child is. When this question was asked, they were told, "about your age." Second, subjects sometimes asked about the character's diagnosis: "Is he normal?" and such. When questions like this arose, the subject was told, in effect, to use his or her own judgment in deciding (e.g., "We're just told that...").

Results

Before presenting specific results, we would like to note that this story was very effective in eliciting discussion from subjects in all age groups. Subjects seemed to become involved in the story. They voiced clear opinions. They discussed numerous issues related to the story. In short, the story was a very effective stimulus for generating discussions of many topics relevant to this study.

Table 14-1 shows the percentages of subjects in each age group offering various decisions about where the story character, Joe, should go to school. As the table shows, subjects did not always simply decide in favor of the special school or the regular school. Rather, some subjects described special ways in which one school or the other might be made appropriate for Joe, or arrived at no single judgment about where he should go to school.

In examining Table 14-1, consider first the percentage of subjects in each group who said that Joe should go to a "special" school. The decision in favor of the special school was made by 33.3% of the preschoolers, 80.8% of the primary grade subjects, 33.3% of the junior high subjects, 28.6% of the high school subjects, and 20.0% of the adults. That is, the decision was very popular among primary grade children. In addition, some subjects in all groups except the preschool group stipulated that Joe should attend a special school first, then a regular school.

In interpreting these results, it is important to note the exact wording of the story. Namely, the subjects were presented with the phrase special school. It was our impression that

Table 14-1

Percentages of Subjects Making Various Decisions

About the Story Character's School Attendance

Decision	Age Group				
	Preschool	Primary	Junior High	High School	Adult
Special school	33.3	80.8	33.3	28.6	20.0
Regular school	23.8	11.5	38.1	14.3	30.0
Maybe one, maybe the other	0	0	4.8	33.3	30.0
Regular school with special provisions (tutors, etc.)	0	0	4.8	9.5	0
Special school first, then regular	0	7.7	19.0	14.3	20.0
Don't know, no response	42.9	0	0	0	0

subjects sometimes responded positively to the word special; the word seemed to have happy connotations for some children, as if there are special treats, special surprises, and special schools. Some subjects, in fact, verbalized ideas about the way in which the special school would be special. Two interpretations of the phrase special school are notable.

First, some subjects gave a naively optimistic picture of what a special school would be like. For example:

> A different school, like a private school...There would be one teacher, and he would understand her. ...There would be no other children, only two or three children... and the boy would be all right, and it would be good. (age 7)

> [The special school] would help him, and he'd know what to do. And he'd get lots more attention than if he came to a public school, 'cause [at public school] there wouldn't be a teacher for every person. (age 13)

This kind of overly optimistic vision of the special school as a place offering one teacher for every pupil, special and effective ways of tutoring beyond the powers of the public school, and such was offered by 11.0% of subjects, 4.8% (n=1) of the preschoolers, 19.2% of the primary grade subjects, 14.3% of the junior high subjects, 4.8% (n=1) of the high school subjects, and 9.1% (n=1) of the adults. One often had the sense, in hearing about these naive images of the special school, that the word special was not taken as a euphemism, but was taken to mean "specially wonderful."

A second specific interpretation of the idea of a special school is notable not because it was frequent--it was not--but because it reflects vividly perceptions of public schools and of the role of "special" schools. This interpretation is that the special school explicitly trains children like the story character to manage teasing, ridicule, and other such hostile reactions of nonhandicapped peers. One primary-grade subject, two junior high subjects and three high school subjects explicitly said that such preparation for the hostility of the nonhandicapped world would be part of the function of the special school.

Consider next the percentages of subjects in each group deciding in favor of the regular school. This decision was reached by 23.8% of the preschoolers, 11.5% of the primary-grade subjects, 38.1% of the junior high subjects, 14.3% of the high school subjects, and 30.0% of the adults. Clearly, neither the group as a whole nor any particular group was strongly in favor of mainstreaming for the story character, at least without further information about him or special provisions for his welfare.

Finally, note that in Table 14-1 there is no decision that shows a clear pattern of increasing frequency with age, except the equivocal "maybe one, maybe the other" response, which was given by about one-third of the high school students and adults, and by only one subject in the younger groups. It did not seem to be the case that young children readily espoused the idea of mainstreaming Joe, and that ideas of segregation occurred with increasing frequency in older groups. It did not seem to be the case that young children favored separate schools for

Joe, while older subjects favored mainstreaming. Indeed, the only patterns that stand out in the table are (a) the tendency of older subjects to give complicated responses, with young children making yes-no decisions, and (b) the clear preference of the primary-graders for the "special school" decision.

Bases for Decisions

While one would not necessarily expect to find clear developmental trends in the particular decisions subjects reached about Joe, one would expect, on the basis of research related to moral development (e.g., Kohlberg, 1969; Selman, Damon, Gordon, & Lieberman, 1973) to find developmental patterns in the reasoning about the decisions. In general, one would expect that from the preschool years to adulthood, the justifications used in reaching the decision would move from the concrete to the abstract, from practical to idealistic or ethical; from concern with the way things are now to the way things ought to be; from individual to social; and so forth.

Responses to the story were coded for a variety of issues raised in relation to the story. These issues were coded whether or not a subject explicitly said that an issue was a justification for a decision. Subjects sometimes made it clear that they were justifying the decision. Often, however, they simply mentioned various concerns about the character and his school attendance. The "issues" coded, then, were coded whether or not the subject explicitly said the issue was a justification for the decision.

The particular issues coded were derived both from work on moral development (e.g., Selman, et al., 1973) and from responses that seemed to be important to subjects but were not particularly stressed in the literature. For example, the coding of references to the way things are now (e.g., the idea that children like this do go to one kind of school or the other) was based on Selman, Damon, Gordon, and Lieberman's (1973) description of Stage 1A reasoning in the development of role-taking. In contrast, the specific idea that in one situation or the other, Joe would be with "kids like him," his own kind, and so forth seemed to be important to subjects, and hence seemed to be an important feature of responses to record in the coding.

Results. Table 14-2 shows the percentage of subjects in each group raising each of the issues shown in the table.

As Selman, et al. (1973) would predict, the preschoolers seldom offered any justification for the decision, seldom raised any particular issues. A few preschoolers justified by assertion (e.g., "He just should") and a few mentioned the character's school-related or special needs. Preschoolers on the whole, however, tended simply to state the decision.

The remainder of the table, however, fails to show the patterns of response that one would expect from work on moral development. For example, the idea that the decision should be referred to a higher authority is related to Stage 1A of Selman, et al.(1973). This is a stage in which "the child does

Table 14-2

Percentages of Subjects in Each Group Raising Various Concerns Related to Mainstreaming

	Age Group				
	Preschool (n=21)	Primary (n=26)	Junior High (n=21)	High School (n=21)	Adult (n=11)
Justification by assertion: "He just should..."	9.5	3.8	0	0	0
The way things are now: "Kids like this do..."	0	3.8	9.5	0	0
Refer to a higher authority	0	0	9.5	23.8	54.5
Consider his social-emotional well-being	0	53.8	61.9	76.2	63.6
Consider his academic, special needs	9.5	53.8	81.0	76.2	63.6
Consider his ability to cope: "If he can make it..."	0	3.8	14.3	14.3	45.5
Being with "his own kind"					
As a good thing:	0	0	28.6	19.0	9.1
As a bad thing:	0	0	4.8	4.8	0
As a good and bad thing:	0	0	4.8	0	9.1
Effect on teacher					
Positive	0	11.5	4.8	14.3	18.2
Negative	0	0	0	0	9.1
Academic or moral leaning of other children	0	11.5	4.8	14.3	27.3
Raise moral issue or general principle	0	0	4.8	4.8	18.2

not challenge the rightness of the reality which he 'perceives.'" In responses to the story, however, references to higher authority (e.g., suggestions that a doctor, school principal, or such make the decision) were not voiced by the young children to whom Selman, et al. refer. However, references to authorities were popular among adults and mentioned by some adolescents (23.8% of the high school students, 9.5% of the junior high group). To take another example, very few subjects made any reference to a moral issue or general principle in discussing the story. Only a few adolescents and adults did so.

In contrast, many subjects from the primary group upward focused heavily on the needs and well-being of the protagonist. Subjects discussed where he would be happy; where he would learn best; where he would get along well with others; and so forth. These kinds of concerns for the protagonist's well-being were expressed by about half of the primary-grade subjects and by somewhat higher proportions of subjects in the older groups. References to other issues occurred much less frequently in all groups than did these references to the protagonist's welfare, except in the adult group. The adults also referred fairly frequently to higher authorities and to the protagonist's ability to cope with one school or the other.

Few subjects in any group seemed to consider the relationship of the protagonist to peers or teachers. Few subjects referred to how a teacher would react to having Joe in a class, how his presence would affect the other children's learning, and so forth. The only expressed concern related to people other than the protagonist occurring with notable frequency was a reference to whether or not Joe would be with people like himself. About one-third of the junior high students mentioned this issue; most of those who did expressed the view that this would be beneficial to Joe. Mainly, however, this concern with the protagonist being with similar children remained centered on the protagonist: It would be good or bad for him to realize that he is not different from others, and so forth.

Discussion. There is a clear lack of correspondence between the results reported here and the results reported in the literature about the development of role-taking and moral reasoning. Regardless of age, subjects centered on the social and emotional well-being of the protagonist and on his academic or special needs. When older subjects raised other kinds of concerns, these were apt to be related to referring the issue to a higher authority or assessing the protagonist's ability to cope with situations, rather than related to teacher or peer group well-being, or to moral issues. Particularly striking is the infrequency of reference to any general principle or moral issue in relation to the story.

This infrequent reference to moral issues or principles, even among older subjects, helps to explain the lack of correspondence between these results and descriptions of reactions to moral dilemmas. Subjects evidently did not construe the dilemma presented in the story as a moral dilemma. Rather, they perceived the problem to be an individual problem about the well-being of the protagonist. Accordingly, they answered in terms of the protagonist's well-being, and did not use the kind of moral reasoning that has been described extensively in the literature.

Other interpretations of these results are, of course, possible. For instance, one might try to argue that this particular sample represents a population at a rather uniformly low level of moral reasoning. This interpretation seems to be highly improbable, since this is a group of well-educated, bright people who are, in fact, similar to the groups used in most studies of moral reasoning. It is our impression that this group would have given normative reactions to the standard moral dilemmas. If anything, one would expect this bright, verbal group to appear somewhat advanced in levels of role-taking or moral development.

Another possible interpretation is that these subjects, while assumed to have the capacity for relatively high level moral reasoning, applied only low level moral reasoning to this particular dilemma. One might argue that this particular story elicited responses at lower levels than those the subjects would use in response to other kinds of problems. The data suggest that this interpretation merits consideration. Specifically, while one might expect the primary-grade subjects to refer the problem to benign authorities, one finds that this suggestion appeared among junior high students, then increased in frequency among older subjects.

While this interpretation of the results as showing that subjects reasoned at lower levels than those they potentially could have commanded is a possible one, it seems more likely that they seldom reasoned about the dilemma as a moral dilemma. It is our strong impression that this was the case.

In summary, responses to the story suggest that the problem of whether or not to mainstream a child with fairly common behavioral problems was seldom construed as a moral or ethical problem. Rather, it was interpreted as a question involving only the protagonist in the story, a problem related to effective or ineffective ways to help the protagonist, not a problem of right or wrong. This construal of the story may reflect its ineffectiveness as a stimulus; this particular dilemma about mainstreaming may not be perceived as a moral dilemma. It is also possible that the issues raised by the story do not evoke the kinds of moral reasoning that the dilemmas used in studies of moral reasoning are designed to evoke.

Since public reaction to mainstreaming is an important topic, further research might explore this question. In such research, a number of factors should be explored and controlled. For instance, one might control systematically the wording of the dilemma presented to subjects (e.g., "What is the morally right thing to do?" versus "What should they do?"). One might simply ask subjects whether or not the story involved a moral issue. From the results reported here, it would be premature to conclude that decisions about mainstreaming are not construed as moral or ethical decisions. The story's failure to evoke the kind of reasoning usually applied to moral dilemmas might be attributable to the context of the interviews: Preceding sections of the interviews may have primed subjects to focus on questions of the individual well-being of handicapped people. The results might have been different had this story been presented in the context of a series of moral dilemmas, and had interviewers prompted for moral reasoning rather than for more general kinds of reactions to the story.

Special Reactions To "Joe"

Besides eliciting discussions about where the protagonist should go to school, the story about "Joe" elicited discussions that highlight several themes expressed elsewhere in the interviews which are important in understanding reactions to mainstreamed children with the kinds of behavioral problems attributed to the story character.

Normalization or Denial. In a study of children's understanding of "disordered behavior," Coie and Pennington (1976) describe first-grade subjects as normalizing stories about behaviorally deviant characters. Fourth- and seventh-graders in that study made normative comparisons about the observable behaviors of characters, attending to concrete violations of rules and codes. Eleventh-graders showed a social definition of deviance.

In responding to the story about "Joe," some subjects "normalized" the character's behavior, but did so at a later age than did Coie and Pennington's subjects. Furthermore, these adolescent subjects seemed to deny the behavioral difficulties of the character, rather than to explain these as normal. That is, they talked as if the character's behavior did fit their ideas of social rules.

Many adolescents, at various points in the interview, used the phrase "just like everyone else." In context, this phrase itself does not always mean a denial of problems. Rather, being "just like everyone else," often seems to mean, roughly, being a socially acceptable human being. In what appeared to be efforts to react positively to the protagonist, some subjects seemd to apply this "just like everyone else" concept in a way that distorted the facts of the story. In the story, Joe is definitely not "just like everyone else" since he clearly has problems. Given the presentation of Joe as experiencing problems (e.g., "he has a hard time talking; he acts kind of strange,") it was striking to hear him described as follows:

> He can get to know everyone...and show them that he's just like everyone else. (age 11)
>
> Some kids...might think that he's different from them. (age 11)

One had the impression, in short, that efforts to accept Joe socially, to see him as "just like everyone else" socially, sometimes resulted in a distorted perception of the facts of the case. That is, his behavoral problems seemed to be normalized or denied in the service of expressing the idea that he might be socially accepted. This kind of normalization of Joe's problems, while not frequent in any age group, was an exclusively adolescent phenomenon: 14.3% of the junior high and 19.0% of the high school students normalized Joe in this way, while no older or younger subjects did so.

The importance of this normalization lies not in its frequency, since it did not occur very frequently. Rather, the importance of the normalization seems to be that it represents an extreme version of a more common notion among adolescent subjects: To be socially acceptable is to be, in some way, like everyone else. For many adolescent subjects, one sensed that it was hard to conceive of anyone as being different from other people in such a way that the difference was accepted. It was evidently difficult to integrate ideas of someone as different in any way, but "just like everyone else" socially.

The normalization of the story character was not the only example in interviews of the denial of difference in the service of making handicapped people "just like everyone else." Two extreme examples occurred that show, in an unusually dramatic way, a theme that was evident in subdued form in many interviews with adolescents.

The first example comes from an interview with a 15-year-old subject. When asked about blind people, this subject described another 15-year-old as deaf and partially blind. The subject went on to discuss this girl as follows:

> She can see a little. Like if you're real close to her and if you write on a piece of paper dark, then she can see it. She's just like a regular person, 'cause, you know, she can talk with her hands. Well, she can't talk with her hands. You have to talk in her hands. She's just regular.

At this point, early in the interview, one assumes that "regular" has social meaning: The girl is a socially pleasant person. Later in the interview, however, the subject described taking a friend to visit the girl:

> And she [the friend] didn't really notice [the girl's handicaps] 'cause she just acted regular and stuff like that. So, she [the friend] didn't know until someone told her. I mean, she acted a little different, 'cause she couldn't talk. But she didn't say anything...so, she just acted regular. There's really nothing different about her. I mean, she's deaf, I mean, but nothing different about her.

One has the sense that this subject uses the concepts of being "regular" and having "nothing different" in a way that blurs the distinction between social difference, (i.e.,unacceptability,) and the differences involved in handicaps.

The second example is of interest because it does not involve the concept of "just like everyone else," "regular," or such. Rather, it involves being "smart":

> Mentally retarded people, they can be just as smart as everyone else. It may take them longer to learn, but they're just as smart. (age 11)

Although this statement is an extreme example of the denial of facts of handicaps, it is not completely discontinuous with statements of other adolescent subjects. A similar distortion occurs in the following description of someone the subject knows fairly well. The subject has described this boy as "older than me," that is, older than age 11, but in the fourth grade:

> He's smart, but he's just a slow learner. (age 11)

The denial of difference or normalization, then, seems to occur not only when subjects apply concepts like "just like everyone else," but also when they apply other concepts with socially positive connotations. One has the sense that for some adolescent subjects, to say outright that someone is "different," "not smart," not exactly "like everyone else," is to damn the person to social unacceptability. Unless one denies differences, one cannot describe someone as "an ok kid."

Discussion. These observations clarify previous research in two specific ways. First, it is clear that Gottlieb and Gottlieb's (1977) report that children rated descriptions of a mentally retarded child as "smart" is not an isolated finding. The same kind of description appeared in these data collected with different subjects in a different context, namely, in spontaneous descriptions in interviews rather than in responses to a forced-choice task.

Second, more generally, these observations call into question the validity of equating positive attitudes toward handicapped people with the perception of handicapped people as not different from other people (Yuker, et al., 1966). Specifically, does the "positive" quality involved in denying difference represent maturity? Normalization or denial may represent a transitional phase in the development of mature concepts of handicaps, a phase that would seem to precede concepts in which the differences are recognized and accepted. It may be, then, that measures which equate positive attitudes with denial of difference place an implicit high value on this apparently transitional phase, without reflecting the positive quality that may be involved in acceptance of differences.

Teasing and Ridicule. With regard to the story about the character Joe, subjects were asked, "What would it be like if they sent him to the regular school?" In response to this question, as well as in general discussions of the story, some subjects stated outright that Joe would be ridiculed, teased, or rejected. Interviews were coded for statements that such teasing, ridicule, or rejection would definitely happen; that behavior like this does occur in schools; and so forth. Subjects were not coded as saying this if they merely mentioned social problems, but only if they made specific behavioral statements.

None of the preschoolers, 15.4% of the primary grade subjects, 23.8% of the junior high subjects, 52.4% of the high school subjects, and 36.4% of the adults expressed the idea that this kind of teasing, ridicule, or rejection would definitely occur. Indeed, as discussed above, some subjects envisioned the "special school" as a place where Joe would be trained to steel himself against these negative reactions. Clearly, this image of Joe as the certain victim of overt hostility was rather frequent among the older groups of subjects.

As discussed elsewhere in this report, there is a prevalent belief among educators, with some empirical support, that boys are more likely than girls to express negative feelings about handicapped people, particularly, amout mentally retarded peers. Consequently, it seemed important to examine responses to the story for sex differences. As is generally the case in results from this entire study, neither chi square tests, correlation coefficients (Pearson's r) nor inspection of the data showed any indication of a relationship between sex and story responses in the sample as a whole or in any age group, with some exceptions. One concerns responses to the effect that the story character would be teased, ridiculed, or rejected in a "regular" school. Specifically, in the junior high group only, a difference between boys' and girls' responses was evident. While 46.7% of the junior high girls replied that Joe would certainly be teased or ridiculed, only 16.7% of the junior high boys said this.

A second finding of sex differences in responses to this story may help in the interpretation of this result. Females were more apt than males to raise the issue of Joe's social and emotional well-being ($r = 0.20$, $p < .025$). Differences in responses occurred in the junior high group, with 80% of the females and only 16.7% of the males raising this issue, and in the adult group, with 80% of the females and 50% of the males raising the issue.

Junior high girls more than boys expressed concerns related to Joe's social acceptance, well-being, and vulnerability to teasing. These girls were more apt than boys to say that Joe would certainly be teased or ridiculed and that his social-emotional well-being should be considered. This finding is not, of course, evidence that these girls were more positive in attitude than were the boys. Rather, the picture that emerges is in accord with traditional sex roles in which females are concerned with emotional and social needs.

These results concerning sex differences should not be heavily emphasized. There are a number of reasons to limit generalizations from these results. First, given the number of tests of statistical significance performed in analyses for sex differences, it is, if anything, remarkable that so few statistically significant results appeared. Strictly on the basis of chance, some significance would be expected.

Second, if the males and females in this sample actually differ in important ways in their reactions to handicapped people, one would expect important differences to appear consistently. As discussed elsewhere, results concerning sex differences in this sample show a remarkably consistent picture of no difference, with a few scattered exceptions. Indeed, the only hint of any important difference occurs in the results discussed above. That is, the data suggest that in the junior high group, subjects tended to conform to traditional sex roles, in that girls more frequently than boys mentioned Joe's social-emotional well-being and declared that he would be teased or ridiculed.

In interpreting results concerning teasing and ridicule, as well as the sex differences, it is difficult to find an appropriate standard of comparison to use in evaluating the meaning of the results. Specifically, in order to evaluate the results meaningfully, one would need some objective measure of the genuine likelihood that Joe would be teased or ridiculed. That is, are the girls more accurate than the boys? Are the girls accurate about boys like Joe? Are the high school students more realistic than other subjects in frequently stating that Joe would be teased? Without some further behavioral measures, these questions are unanswerable.

These sex and age differences in responses related to teasing and ridicule may occur for a number of different reasons. First, one may assume that subjects are realistic in their reports and estimates of the likelihood of teasing. Under this assumption, age and sex differences are interpreted as reflecting a behavioral reality. For instance, using this assumption, one would interpret results to mean that the teasing of children like Joe reaches a peak during the high school years, and that junior high girls are exposed to more instances of teasing than are junior high boys.

Second, one may assume that subjects differ in their perceptions, awareness, and recognition of the occurrence of teasing behavior, that is, their psychological sensitivity. For example, under this assumption, the results are interpreted to mean that high school students are particularly sensitive to the issue of teasing, and that junior high girls are more sensitive than junior high boys to this issue.

Third, one may assume that responses related to teasing are responses to the demand characteristics of the interview situation. That is, responses are context-dependent. In this case, high school students respond to the interview situation by reporting teasing more than do other subjects. Junior high girls are more apt than junior high boys to admit that teasing is likely.

Clearly, when one considers that all three possibilities may hold true, no single interpretation is possible without further investigation. The behavioral realities may differ by age group, as seems likely; psychological sensitivity may differ, as seems likely; and responses to the interview situation may also differ, as seems likely.

CHAPTER 15. SEX DIFFERENCES IN DISCUSSIONS OF HANDICAPS

There seems to be a strong folk belief that females' attitudes toward handicapped people are more positive than are males' attitudes. When research has found sex differences, these differences have usually supported the folk belief. That is, females seem to be more amenable to change in a positive direction or otherwise to express more positive attitudes than males (Yuker, Block, & Younng, 1966; Goodman, Gottlieb, & Harrison, 1972).

The examination of these interview data for sex differences presents some obvious difficulties. Specifically, the repeated use of tests of statistical significance may guarantee finding "significant" results simply by chance. Consequently, although tests of statistical significance were performed in order to locate potential areas of difference between males and females in discussions of handicaps, no emphasis is placed on the "significance" of isolated findings. The significant differences reported here, then, are not used as a substitute for common sense (see Hays, 1973) or for decisions about general importance. Rather, the statistical tests are used, in effect, as a device for screening those areas that show clear, meaningful patterns of difference between males and females.

In examining the data for sex differences, attention was directed at those variables that one might have reason to believe would show male-female differences. Specifically, attention focused mainly on variables related to attitudes and judgments: whether or not handicapped people are believed likely to marry and have children; were described as dependent; whether or not subjects said it would be hard or scary to have a handicap; and so forth.

For each kind of handicap, variables like these were examined for sex differences within each age group, as appropriate. For example, male-female differences in expressions of awkward discomfort related to deaf people were examined separately for each age group. Furthermore, these comparisons were performed only on data for subjects showing at least minimal awareness of the handicap. Examination included, for instance, boys' and girls' expressions of awkward discomfort about deaf people, for preschoolers showing at least minimal awareness of deafness; for primary grade subjects showing at least minimal awareness of deafness, and so forth. Clearly, some combinations of age group and variable were irrelevant to this examination: No preschoolers showed even minimal awareness of psychological disturbances, so no sex differences were possible. Similarly, when all subjects in an age group gave the same response, no sex differences were possible. Examination was confined, then, to cells in which sex differences might have occurred.

Finally, certain kinds of rare responses were examined for sex differences in the sample as a whole: expressions of the idea that handicapped people are unaware of being handicapped; expressions of disgust; and so forth.

The statistics computed to screen for areas of important difference between males and females were (a) chi square, or when appropriate, Fisher's exact test, and (b) Pearson's r. The alpha level used was .05 for all tests.

Results

Overall, there was very little indication of any male-female differences in discussions of handicaps. Particularly given the fact that repeated tests of statistical significance virtually guarantee finding some significance purely by chance, surprisingly few sex differences appeared. Specific results are summarized below.

Blindness. For subjects showing at least minimal awareness of blindness, no statistically significant association ($p <.05$) was evident for any age group between sex and the following: predictions about whether blind people marry or have children; expressions of the belief that blindness is strange, hard, no fun, and such; references to psychological adjustment to blindness; expressions of the belief that blind people are dependent or need help; references to sports; expressions of fear or pity; expressions of awkward discomfort; expressions of negative feelings about blindness (as a condition).

The only variable related to blindness for which male-female differences were evident is a variable specific to blindness: the use of "world of darkness" imagery. The use of the image of blindness as a world of darkness was confined mainly to adolescent girls.

Deafness. For subjects showing at least minimal awareness of deafness, no statistically significant association ($p < .05$) was observed for any age group between sex and the following: beliefs about the prognosis of deafness (i.e., pessimism, realism, optimism about whether deaf people remain deaf); beliefs about whether deaf people marry and have children; reference to stigma other than teasing; references to sports; or expressions of awkward discomfort in relation to deaf people.

Orthopedic Handicaps. For subjects showing at least minimal awareness of orthopedic handicaps, no statistically significant association ($p < .05$) was observed for any age group between sex and the following: beliefs about the prognosis of orthopedic handicaps; beliefs about whether orthopedically handicapped people marry or have children; expressions of the idea that it would be strange, hard, or no fun, and such to have this handicap; beliefs that it would be frightening to have this handicap; references to stigma other than teasing; references to sports; expressions of a condescending attitude; expressions of awkward discomfort in relation to orthopedically handicapped people; expressions of negative feelings about orthopedic handicaps (as a condition). The single statistically significant ($p < .05$) association observed in relation to orthopedic handicaps concerns expressions of the idea that orthopedically handicapped people are dependent or need a lot of help from other people. In the primary grade group, four girls but no boys expressed this idea ($r = .41$, $p < .03$). In the adult group, males were more apt to express this idea than females ($r = -.65$, $p < .02$). (The negative correlation coefficient simply shows that males rather than females expressed the belief.)

Mental Retardation. For subjects expressing at least minimal awareness of mental retardation, no statistically significant association ($p < .05$) was observed for any age group between sex and the following: providing any description of anything related to cultural-familial retardation; beliefs about whether mentally retarded people marry or have children; expressions of the idea that it would be strange, hard, or frightening to be retarded; descriptions of mentally retarded people as needing lots of help or as dependent; references to sports; descriptions of mentally retarded people as particularly cheerful, always happy, and such; speaking as an advocate for mentally retarded people; expressions of fear, pity, and condescension; and expressions of negative feelings about mentally retarded people.

The one variable related to mental retardation examined here that showed any evidence of male-female difference in any age group was the expression of awkward discomfort in relation to mentally retarded people. Specifically, in the adult group, three of the six males but none of the five females described such awkward discomfort.

Psychological Disturbances. For subjects expressing at least minimal awareness of psychological disturbances, no statistically significant association ($p < .05$) was observed for any age group between sex and the following: beliefs about whether psychologically disturbed people marry or have children; expressions of the idea that it would be strange, hard, no fun, and such to have this handicap; descriptions of psychologically disturbed people as needing lots of help or as dependent; references to sports; expressions of the idea that we are all somehow psychologically disturbed; speaking as an advocate for psychologically disturbed people; expressions of condescension; expressions of awkward discomfort in relation to people with this handicap; and expressions of negative feelings about people with this handicap.

The following associations were observed: In the high school group, 2 of the 10 males, but none of the 13 females expressed the idea it would be scary or frightening to have this handicap. In the adult group, 3 of the 6 males expressed some fear of people with this handicap, while none expressed pity; in contrast, of the 3 female adults discussing the handicap, 1 expressed fear, 1 pity, and 1 both fear of and pity for people with this handicap.

Summary

As indicated, few statistically significant ($p < .05$) associations were observed between sex and any variable for any age group. The results show the kind of occasional statistical significance one would expect on the basis of chance; no particular pattern emerges, and ad hoc interpretations of these few "significant" results would be inappropriate. The overall pattern emerging is clearly one of no male-female differences for the variables examined.

"Rare" Variables

Four rarely occurring but potentially important variables were examined for sex differences: expressions of the belief that people with any handicap are harmful; are oblivious to being handicapped; or are disgusting; and expressions of the belief that any handicap is a fate as bad as or worse than death. The only one of these to show any evidence of male-female differences is the final one. Specifically, of the five subjects expressing the idea that any handicap is a fate as bad as or worse than death, four were male. (One referred to blindness, one to orthopedic handicaps, one to mental retardation, and one to both orthopedic handicaps and mental retardation.)

Sex Differences in Other Variables

As discussed in some detail elsewhere in this report, a few other sex differences were observed. Specifically, junior high males more often than females expressed some strongly negative attitudes about handicapped people. In response to a story dilemma, junior high females more than males raised issues related to the character's social-emotional well-being and stated that such a character would certainly be teased or ridiculed in the regular school.

Discussion

Mainly because of the interest in sex differences in attitudes toward handicapped people evident in the literature, discussions of handicaps were examined for many areas on which male and female discussions might have differed. Very few differences were observed. The only notable ones pertain to (a) the use of world of darkness imagery about blindness, (b) the expression of the idea that any handicap is a fate as bad as or worse than death (a very rare idea in these interviews, mentioned by four males and one female), (c) the expression of certain strongly negative attitudes, and (d) certain responses to a story dilemma.

These generally negative statistical findings are consonant with impressions obtained during the interviews. In interviewing and in listening to tape recordings of interviews, one does not have the impression that males and females differed in their discussions of handicaps and handicapped people. Contrary to the impressions one might gain from the literature, boys did not often seem to express negative attitudes; they did not seem fearful; they did not seem to discuss handicaps in a way that differed from that of females. In short, one does not have the impression the negative results may have arisen because crucial variables were not included in the coding scheme. Rather, the few male-female differences evident in the examination of statistical results were the only evidence, clinical or otherwise, of sex differences.

It is notable, however, that when sex differences were evident, the group showing differences was generally the junior high school group. It may be that traditional sex roles typing was more common in this group than in other groups, or it may be that the particular junior high school students studied showed these differences, while other subjects did not.

Chapter 16. CONCLUSIONS AND EDUCATIONAL IMPLICATIONS

In this final chapter, we discuss some educational implications of this study. Some of these implications concern the kinds of expectations that it is realistic and unrealistic to hold about children's understanding of handicaps and handicapped people. Others concern the kinds of educational interventions the results of this study suggest.

Talking With Children About Handicaps

A result of this study not presented formally as such concerns the interview method used in the study. Data were collected by means of individual interviews with subjects ranging in age from two years to adulthood. The use of the interview technique merits mention with regard to the implications of the study since our experience was that the young subjects discussed handicaps without apparent fear or discomfort.

The readiness of the children to talk about handicaps and handicapped people is noteworthy because educators sometimes appear concerned that discussions like the ones used in our data collection may frighten or upset nonhandicapped children, especially preschoolers. This was not the case. Indeed, the only group of subjects to display notable avoidance of topics was the adult group; some adults cut off discussions of psychological disturbances. The young children seemed not only willing to discuss handicaps, but also seemed to be interested in these discussions.

This observation is important because parents and teachers may avoid discussing handicaps with children because the adults believe that children are upset by such discussions. Adults may believe that children are not capable of such discussions, or may otherwise hold unrealistic beliefs about the possibilities simply of talking with children about these topics. Hence, the straightforward educational practice of talking with nonhandicapped children about handicaps may be avoided in both the formal educational setting of the school and the informal educational setting of the home. An avoidance of the topic of handicaps has broad implication. Avoidance may contribute to the mystification of handicaps and handicapped people. That mystification may result in the unrealistic conceptions of handicaps offered by some of the older subjects in this study and described in the literature on popular beliefs about handicaps, and it may broaden the gap between handicapped and nonhandicapped people in our society.

That children can and will talk with adults about handicaps in a relaxed and interested manner is not in itself grounds for recommending adult-initiated discussions as a general educational intervention. Two particular points should be addressed with regard to advocating such practices. First, the interviews in this study were conducted with considerable sensitivity and skill. Perhaps of equal importance, the interviewers felt competent about conducting the interviews. It may be that many parents and teachers who are sensitive to children and skillful in the art of talking with young children lack a sense of competence when faced with the task of talking with children about handicaps.

These adults may not know what to ask, what to explain, or how to explain it. They may wonder whether they should discuss the topic at all. They may be fearful of conveying their own anxieties to the children, or may have other kinds of concerns that interfere with their usual abilities to engage in relaxed talk with children. In other words, the adult may encounter difficulties similar to those familiar from situations of talking with children about sex. Even when one believes that the topic should be discussed, one does not necessarily feel relaxed and competent about dealing with the subject matter.

Second, the issue of talking with nonhandicapped children about handicaps involves adult values and beliefs. Adults sometimes place a positive value on young children's obliviousness to handicaps. We have frequently been told that discussing handicaps would upset the children or would give rise to fearful thoughts and fantasies. We have been told that nonhandicapped children's heightened awareness of handicaps would disrupt the easy, comfortable, relaxed relationships these children have with handicapped people. Adults sometimes imply that young children's ignorance will shield the children from some presumably unpleasant reality.

While we have no data on the effects of the interviews on the children's subsequent behavior with handicapped people, we saw no evidence of negative effects. We received no negative feedback from teachers or parents regarding fears, bad dreams, or such. Rather, we observed the children's eagerness to talk about these interesting topics. Consequently, we question professionals' and parents' reluctance to talk with children openly about handicaps. We suggest that such conversations would increase children's awareness. We also suggest they might prepare children for a realistic concern about the problems handicapped people face. Such awareness and concern might contribute to the knowledgeable acceptance of handicapped people, to a realistic understanding of the strengths and limitations involved in handicaps, and to an understanding of the similarities and differences among handicapped and nonhandicapped people. Most important, it may heighten the sense of similarity, of shared humanity, which serves as the basis for the acceptance of handicapped persons, rather than the usual focus on the differences, their separateness as people. We question strongly the high value sometimes placed on unawareness, arguing that to make handicaps a topic discussed with children "only when they ask" is to convey the implicit message that handicaps are a topic to avoid.

The general point, then, is that children seem open to discussing handicaps with adults. Whether or not adults are willing to participate in such discussion, whether or not they feel competent and comfortable doing so, are matters not investigated in this study.

Expressed Awareness of Handicaps

The results of this study show that expressed awareness of the five handicaps studied (blindness, deafness, orthopedic handicaps, mental retardation, and psychological disturbances) was highly scalable, whether "expressed awareness" was defined very leniently or somewhat more stringently. Analysis of the data showed that awareness patterns could be described by means of Guttman scales, with handicaps ordered from least to most difficult, in this special sense. In the scalogram analyses, psychological disturbance was the "most difficult" handicap of which to be aware, then mental retardation, then orthopedic handicaps, then either blindness or deafness, depending upon how one defined "expressed awareness." Some preschoolers expressed awareness of sensory handicaps and/or orthopedic handicaps. Awareness of mental retardation began to appear in the primary-grade group, and awareness of psychological disturbances in the junior high school group. Only the high school and adult groups dependably expressed an awareness of all five of the handicaps.

It is clear that the "easy" handicaps of which to be aware are those involving highly noticeable, perceptually salient characteristics. Some of those salient characteristics are inherent in the handicap, while others are characteristics handicapped people display because of the coping devices they use to deal with their handicaps (e.g., canes, dark glasses, sign language). Mental retardation and psychological disturbances, in contrast, are recognizable because of abstract cognitive and emotional features that must be inferred from behavior, and do not involve the readily visible coping devices that seem to draw children's attention.

Furthermore, the "easy" handicaps are those to which children can relate their own experience. The sensory and physical handicaps are close to children's experience in the sense that children experience "not being able to see" when rooms are dark, when night falls, when they close their eyes. They experience "not being able to hear" when they are far away from sources of sound. To a lesser extent they experience "trouble walking" when walking through snow or sand, and experience difficulty in performing actions that are beyond their physical capabilities.

Mental retardation and psychological disturbances, in contrast, are further removed from the daily experiences on which the child may reflect. While children certainly encounter cognitive material that is beyond their abilities and experience the disorganizing effects of powerful emotions on their own and others' behavior, the ability to reflect upon these psychological experiences, to take their own thoughts and feelings as cognitive objects, develops relatively late, with the transition to formal operational reasoning (see Elkind, 1974).

A constructivist interpretation of these results (Inhelder, 1968) is that these awareness patterns arise from an interaction between the characteristics of the handicaps and the characteristics of the child's thought. The sensory handicaps are easiest because they involve characteristics comprehensible by the young child, characteristics within the range of the child's experience and ability to reflect. Orthopedic handicaps, although more visible than sensory handicaps, tend to be grasped somewhat later since these handicaps are not within the child's immediate experience in the direct way that blindness and deafness are. To imagine chronic difficulty in walking, for instance, requires considerably more extrapolation from one's own immediate experience than to imagine blindness in terms of having one's eyes shut. Finally, both mental retardation and psychological disturbance involve an understanding of properties of thought and feeling; these handicaps seem not to be grasped until about the age at which children become capable of reflecting upon their own inner processes of thinking and feeling, that is, until children begin to take these psychological processes as objects of thought.

The identification of these patterns of expressed awareness may provide a framework for understanding the difficulty curriculum designers seem to encounter in presenting material about mental retardation and psychological disturbances to young children. For example, the Meeting Street School curriculum (Bookbinder, 1978) omits material on emotional disturbances because, as Bookbinder states frankly, the curriculum designers were unable to find a satisfactory way to explain emotional disturbances to young children. The Boston Children's Museum exhibit on handicaps (Boston Children's Museum, 1979-1980) does include material on both mental retardation and emotional disturbance, as well as on sensory handicaps, orthopedic handicaps, and learning disabilities. One has the impression in viewing this exhibit, however, that the units on mental retardation and on emotional disturbance are considerably less successful than are the other units. While the units on sensory and orthopedic handicaps and on learning disabilities use vivid experiences with perceptual events related to the handicaps (e.g., simulations of blindness, a reading machine, a wheelchair in which to ride), the units on mental retardation and emotional disturbance are removed from the experience of the handicap (e.g., reading a book about having a retarded sibling) or not clearly about handicaps (e.g., puppets and a script to be used in talking about emotions).

The evident difficulty encountered by these skilled and imaginative educators in preparing effective material about mental retardation and emotional disturbances is understandable when one recognizes the evident difficulty young children have in understanding these handicaps. The experience-oriented, practical quality of the young child's thought makes it very difficult to design effective material about the abstract nature of these handicaps.

It is particularly important to recognize that efforts to make mental retardation and psychological disturbance comprehensible to young children might well involve distorted presentations of these handicaps in curricula. For instance, certain physical characteristics of some mentally retarded people seem to be well within the potential grasp of many young children. Just as some preschoolers understand that there are people who cannot see, who cannot hear, or who have trouble walking, it seems likely that the preschoolers could also understand that there are people called "mentally retarded" who look different from other people and who have trouble walking. It might also be possible to convey the idea of some behavioral differences between retarded people and other people. The problem with tailoring the content about handicaps to the child's thought in this fashion is the danger of conveying to the young child stereotypes that are already a problem among older children and adults. We would hesitate to recommend that mental retardation be presented to young children as if it were defined by readily visible differences. The issue of how to present material about mental retardation and psychological disturbance to young children is in some ways a secondary issue, since the main issue may be whether to present this material at all. This issue may itself be subdivided into two rather separate parts: (a) the issue of how the identified patterns of awareness might be altered in sequence and timing and (b) the issue to whether such alteration in sequence and/or timing is desirable. In other words, it is possible to intervene in such a way that children seem aware of handicaps at earlier ages than those of our subjects? Is it possible to intervene in such a way that the general sequences of awareness are radically altered? And, if either or both interventions are potentially effective, are they to be desired?

This study, which is directed at the understandings observed in children with relatively little contact with handicapped people, does not provide answers to these questions. One way to begin addressing these questions would be to study mainstreamed children. For instance, do preschoolers who are mainstreamed with mentally retarded children but not with the blind, deaf, and orthopedically handicapped show different patterns of expressed awareness from the ones that occurred in these data? In general, does the experience of mainstreaming seem to be associated with patterns of awareness that differ from the patterns identified for the nonmainstreamed subjects in this study?

The Understanding of Causes of Handicaps

Children's understanding of causes of handicaps proceeds from an initial lack of interest in causes to an increased interest and understanding with increasing age. Younger subjects tended to give vague and general causes (e.g., "something went wrong with..."). Older subjects give specific causes (e.g., "diabetes"). While totally unrealistic and highly improbable explanations of causes tended to decrease in frequency with increasing age, such explanations were occasionally mentioned by older subjects. As stressed throughout this report, these results must be interpreted in terms of the socioeconomic characteristics of the sample. It is considerably more surprising to find even an occasional reference to an improbable cause in this bright, affluent group than it would be to find such explanations in data from a sample representative of the general public.

These results have two specific implications for education. First, there seems to be a folk-belief among educators that children, especially very young children, are greatly interested in the topic of causes of handicaps. Adults, indeed, sometimes seem to envision the preschooler's concept of handicaps as consisting largely of two elements: "How did it happen?" and "Will it happen to me?" In this study, there was no evidence whatsoever to support this notion about young children's concepts of handicaps. When young children discussed causes, they did not do so in a way that suggested any overt or covert fantasy that they themselves were vulnerable to becoming handicapped.

The results of this study suggest that educators designing material for young children like the subjects in this study need not overemphasize the topic of causes. It is our impression that a curriculum aimed at disabusing these children of beliefs in contagion, for instance, would, in fact, have introduced the idea of contagion to many children.

Second, the results suggest that junior high and high school students have much less factual information about the causes of handicaps than they could potentially understand. The kinds of specific explanations of the causes of handicaps offered by adults seem to be well within the cognitive grasp of these adolescents. One has the distinct sense that these adolescents' reliance on vague explanation derives from lack of factual information rather than from an inability to understand or from psychological defensiveness.

In short, efforts to provide nonhandicapped children with explanations of the causes of handicaps might well be directed at providing adolescents with specific facts rather than at disabusing young children of fantasies they appear not to harbor.

Fantasies and Negative Reactions

The development of concepts of handicaps includes the development of fantasies, stereotypes, and negative reactions. While young children clearly understand little about the reality of handicaps, they also express few prejudices, aversions, or negative reactions. While adolescents and adults have a considerable capacity to understand the reality of handicaps, they express partial understandings, fantasies, sterotypes, and negative reactions rather frequently.

Clearly, educational efforts should not be limited to preschoolers and to children of elementary school age, as often seems to be the case in curricula about handicaps now available. Adolscents and adults are in particular need of corrective educational interventions. Especially when the content of educational materials pertains to fantasies, stereotypes, and negative reactions, the content is more appropriate for adults and adolescents than for the very young. For example, if one were concerned with the belief that handicapped people are harmful or potentially harmful, one might do well to direct programming about the erroneous nature of this idea toward adolescents and adults. Messages of the form, "Handicapped people are not..." seem more appropriate for adolescents and adults than for the young children toward whom they are sometimes directed.

Terms for Handicaps and Handicapped People

The results of this study suggest that many subjects were in need of simple information about the social meaning of terms for talking about handicaps. Adolescent and adult subjects sometimes used, without apparent intention of giving offense, terms that handicapped people find offensive. In particular, outdated phrases and nouns like deaf-mute and a cripple were used without any apparent realization that these terms were not currently acceptable.

The use of terms was particularly striking among adolescent subjects because these subjects stressed so strongly their concern with social norms. It was clear that these subjects cared deeply about behaving in socially acceptable ways, yet lacked the basic information necessary to avoid giving unintentional offense to handicapped people they might encounter.

While some aspects of subjects' concepts of handicaps are complex and may be difficult to change in educational interventions, the terminology that is and is not socially acceptable seems to be an area to which educational intervention could be quickly and effectively applied.

Informal Labels for the Handicapped

Research related to the labeling of mentally retarded people has been almost universally concerned with the attitudes children and adults express in reaction to people given formal diagnostic labels. In presenting stimuli, professionals have presented subjects with professional definitions and conceptions of various handicapping conditions. They have, in effect, asked the public to respond in professionals' terms without investigating the meanings these terms have for respondents. To a large extent, research has ignored the informal labels that children and adults use to characterize people as different.

In the interviews conducted for this study, it was clear that subjects' and professionals' understanding of various terms related to mental retardation did not coincide. In particular, the informal label of slow seemed sometimes to be used as a benign label indicating that the "slow" person should be judged according to standards different from those applied to other peers. That is, the subjects in this study seemed to use the label slow in the same way that Siperstein & Budoff (1980) have suggested people might use the formal label mentally retarded. Specifically, Siperstein and Budoff suggest that the formal label mentally retarded may serve a protective function for the labeled child, helping peers to account for behavior that would otherwise be evaluated negatively. In this study, subjects spontaneously used the word slow in such a manner.

Subjects' use of the word slow differed from professionals' use of the term as a euphemism for mild mental retardation. Specifically, subjects sometimes seemed to take the term slow literally; they seemed to imply sharp differentiation between the slow, who take longer, and the mentally retarded, who are often understood to be organically damaged and irreversibly handicapped. The main difference between subjects' and professionals' understanding of "slowness," then is that while professionals view "slowness" as mild mental retardation, subjects discussed these two conditions as distinct and unrelated.

Subjects' use of the informal label slow suggests that further research might be directed toward uses of this and other informal labels. Such research would, first indicate how deviant peers are viewed in the culture of subjects rather than in that of professionals, and, second, would indicate potential intervention strategies for improving the social position of mildly mentally retarded children. Specifically, the subjects in this study seemed to use the term slow in order to serve the kinds of protective functions the formal label mentally retarded sometimes may serve. The term slow seemed to provide a benign explanation of the slow person's behavior, to invoke special standards for evaluating that behavior, and to do so without connoting a relegation to the role of social outcast or deviant.

The Idea That A Cure Will Be Found

When adults and older subjects expressed unrealistic views of the curability of handicaps, such views were more often overly optimistic than overly pessimistic. This overoptimism about the curability of handicaps sometimes was expressed directly as an assertion that handicaps are frequently or readily cured. A somewhat similar theme also appeared in interviews: the idea that a cure will be found for a handicap.

This theme is an interesting one because expressing this theme involves several presuppositions about handicaps. One is the presupposition that a cure is a reasonable thing to discuss. For instance, to hope that "a cure will be found" for mental retardation is to presuppose that "a cure" is somehow a reasonable thing to discuss. To speak of "a cure" is to suggest that a handicap is a unitary entity, an entity rather like a specific disease, and consequently something potentially amenable to "a cure."

The theme is also interesting because the idea that "a cure will be found" highlights the value systems people use in thinking about handicaps. To talk about finding a cure is often to talk as if a handicap is an entity one wishes abolished.

Subjects were coded as raising the "cure will be found" theme only if they raised this theme quite explicitly. They were coded as mentioning it whether or not they raised the hope that a cure will be found. For instance, they were coded as mentioning this theme if they said that a handicap is permanent, "at least until a cure is found."

Table 16-1 shows that results pertaining to the idea that "a cure will be found" are dramatic. This theme was occasionally raised in relation to blindness, deafness, and orthopedic handicaps; older groups raised it with regard to blindness, younger groups with regard to deafness. It was also mentioned occasionally in relation to orthopedic handicaps (by junior high school and by adult subjects). No subjects mentioned the idea in relation to psychological disturbances. In contrast, for all groups in which subjects discussed mental retardation, this was a very common theme about mental retardation. Even among primary grade children, the theme was raised frequently (by 77.8% of the subjects discussing mental retardation); and among older subjects, it was raised even more often.

In this study, the idea that "a cure will be found" seemed to serve as a succinct encoding for several underlying ideas and values related to handicaps, especially to mental retardation. For example, the theme may express ideas about a handicap as a disease entity; it may express a person's positive valuing of the eradication of a handicap; it may reflect an attention to curing (i.e., eradicating) a handicap rather than attention to realistic goals of learning to live with handicaps; it may

Table 16-1

Percentages Of Subjects Raising The Idea That "A Cure Will Be Found"

Handicap	Age Group				
	Preschool	Primary	Junior High	High School	Adult
Blindness	0	0	9.5	20.8	30.0
Deafness	10.5	7.7	4.8	8.3	0
Orthopedic handicap	0	0	9.5	0	18.2
Mental retardation	-	77.8	85.7	91.7	90.0
Psychological disturbance	-	-	0	0	0

Note. Percentages are based on numbers of subjects expressing at least minimal awareness of a handicap.

reflect the power of telethons and other fund-raising efforts. In short, the idea that a cure will be found would seem to have considerable potential as a stimulus for discussing many themes related to handicaps. In this study, we have simply observed the occurrence of the theme in interviews. Further research related to conceptions of handicaps might use this observation in generating stimuli to elicit discussions about many aspects of conceptions of handicaps.

Sources of Concepts

In this report, the focus has been heavily on developmental differences in concepts of handicaps. It is important to note that concepts of handicaps do not simply emerge during development. Rather, they are, to a large extent, what Vygotsky (1962) called "scientific concepts", concepts taught deliberately in educational efforts of the school and home. Not only schools and homes, but television and books clearly contribute to children's and adults' beliefs about handicaps and handicapped people. In particular, in interviewing adolescent subjects for this study, it was clear that television was a powerful source of images of handicapped people. Junior high and high school subjects frequently cited episodes in television dramas and in made-for-television movies as references for beliefs about handicaps. Particularly striking was the readiness of subjects to accept television's portrayal as accurate, although, as Leonard (1978) documents, such portrayal is frequently inaccurate.

One point we would like to raise about adolescents' references to television as a source of information concerns the potential use of television in educational intervention. Television has, of course, been used widely in efforts to change images of handicapped people. For example, the series Feeling Free was designed to promote positive attitudes toward the handicapped. Other public television programs like Sesame Street and Mister Rogers' Neighborhood have included material about handicapped people aimed at promoting positive attitudes among child viewers.

Among our adolescent subjects, however, the television portrayals that seemed to have been effective in creating strong impressions were major network dramas. Horror movies, dramatic love stories involving blind people, vivid tales about deaf people hiding their hearing impairment, and other exciting adventures clearly were more engaging than were programs designed to teach facts. The single most striking thing about subjects' descriptions of these dramas was the subjects' uncritical acceptance of these shows as portrayals of the facts about handicapped people. While some adolescents showed a sophisticated scorn at some devices used in the shows--happy ending, miraculous recoveries---, they seemed not to question the basic accuracy of the images.

In short, adolescents' interest in these dramatic depictions of handicapped people presents an opportunity for educational intervention that may exceed the opportunity provided by public television. Specifically, skillful teachers and parents could use the dramatic portrayals given in network shows as material to be evaluated critically. Rather than trying to encourage adolescents to watch educational television, it would seem to be more realistic to accept the fact that adolescents are going to watch major network misrepresentation of handicapped people and to direct educational effort at helping adolescents to understand that misrepresentation as such.

A second, more general point about the origins of concepts of handicaps concerns the input provided by parents and teachers. While considerable research had been directed at children's attitudes toward the handicapped, no research seems to have examined anything about the way in which significant adults influence children's attitudes. From the results of this study, it is clear that many adolescent and adult subjects were far from accurate potential sources of information about handicaps and handicapped people, although these subjects were a very bright, well-educated group of people. It seems likely, given the results of this study and those concerned with the general public (e.g., Gottwald, 1970), that children may receive considerable misinformation about handicaps even from well-educated parents and teachers. In the absence of empirical evidence, however, we simply do not know whether this is the case. Specifically, we do not know anything about the informal processes of education about handicaps that take place between parents and children. It may be that parents are, to some extent, sources of information that is more accurate than that presented in television dramas. It may be that parents, on the whole, do not usually discuss handicaps with their children, and hence that television serves as a source of information not provided by parents. It seems likely that there is considerable variation from family to family in the extent to which the family serves as a source of information about handicaps. The extent to which families, major network television, and other informal educational resources contribute to concepts of handicaps seems to be an important topic that has been greatly neglected by research.

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Appendix A

Sample Letter to Parents of Potential Subjects and Permission Form

RESEARCH INSTITUTE FOR EDUCATIONAL PROBLEMS, INC.
riep
29 WARE STREET ▪ CAMBRIDGE, MASSACHUSETTS 02138 ▪ TELEPHONE (617) 868-0360-2

Dear Parents,

We are conducting a study of how people develop an understanding of blindness, deafness, and other kinds of handicaps. We would appreciate permission to interview your child about these topics. The attached copy of the interview schedule lists the specific questions we would like to ask. All information about particular children is confidential.

If you have any questions about the study as a whole or about the interviews, please feel free to call me at home or at work.

If you agree to have your child participate, please sign one of the permission forms and return it to the Children's Center.

Sincerely,

Susan Conant, Ed.D.
Research Associate

Permission Form

I give permission for my child ______________________ to be interviewed concerning his(her) beliefs and feelings about handicaps and the handicapped. I understand that his (her) name will be deleted from the interviewer's record of the interview and that the results will be used only as a part of a description of the types of responses given by different age groups.

______________________________ ______________

Signature Date

Appendix B

Concepts of Handicaps Interview Schedule

Note. This interview schedule was designed to serve as a guide for trained interviewers conducting clinical interviews. It is not a questionnaire to be filled in by subjects or read to subjects.

Name________________________________ Sex__________ Age____________________

School____ Class____________________

Interviewer_____________________________________ Date_____________________

INTRODUCTION

1. What's your name?

(Children only)
2. How old are you?

Today we're going to talk about people who have a hard time doing things, like people who can't see or can't hear and things like that. (And kids who don't act like other kids.) (I'm interested in what ordinary kids like you think about that.) (Elaborate if needed.)

LABEL ELICITATION

(Children only)
1. What words do people use to talk about not being able to see?
(You say a person who can't see is ________________________?)

(Children only)
2. What words do people use to talk about not being able to hear?

3. To talk about having trouble (difficulty in) walking?

4. What about having trouble talking? Are there any special words for that?

5. Are there any special words for people who don't act like other people?
(Kids who don't act like other kids? For acting strange?)

6. Are there any special words for having a hard time (difficulty in) learning?

7. Are there any other words you can think of (like______________and
______________) for people who are different from other people
in special ways?

IDENTIFICATION OF BLINDNESS

1. Do you know anyone who is blind, who can't see at all?

(If no)

2. Have you ever seen a blind person, like on TV, or in a store, or on the street?

3. What do you think it would be like to be blind?

4. How do people become (get to be) blind? Any other ways?

5. If a person is blind, can he ever stop being blind? (Why? How?)

a. Tell me about ______________________________. (What is he/she like? What does he/she do?

b. How do you think ___________________________ got to be that way?

(If a child is identified)

c. What will _______________________________ be like when he/she is grown up? (An adult?) Why?

(If a child is identified)

d. Will he/she get married or not? Why? Have children or not? Why?

(If an adult is identified)

e. Will he/she always be this way or not? Why?

(If an adult is identified)

f. Is he/she married or not? Does he/she have children or not? (Could he/she get married, have children or not?) Why?

g. What do other people think about _________________________? Does anyone tease him/her or not? Why? Why not?

IDENTIFICATION OF DEAFNESS

1. Do you know anyone who is deaf, who can't hear at all?

(If no)
2. Have you ever seen a deaf person on TV or somewhere else?

3. What do you suppose it's like to be completely deaf? (Not to be able to hear at all?)

4. How do people become (get to be) deaf? Any other ways?

5. If a person is deaf, can he ever stop being deaf? (Why? How?)

a. Tell me about __________________________. (What is he/she like? What does he/she do?

b. How do you think __________________________ got to be that way?

(If a child is identified)

c. What will __________________________ be like when he/she is grown up? (An adult?) Why?

(If a child is identified)

d. Will he/she get married or not? Why? Have children or not? Why?

(If an adult is identified)

e. Will he/she always be this way or not? Why?

(If an adult is identified)

f. Is he/she married or not? Does he/she have children or not? (Could he/she get married, have children or not?) Why?

g. What do other people think about __________________________? Does anyone tease him/her or not? Why? Why not?

(Introduce as appropriate)

Story No. 1

Two children live next door to one another. They're the same age. They're both (sex of child). (Sally, Jim) is blind, and the other one (Ann, Charlie) is deaf. One can't see at all, and one can't hear at all.

1. Do you think they should go to the same school together, or not? Why??

2. Do you think they play together, or not? Why?

3. (Optional: What could they do? What would it be hard for them to do?)

4. Could it ever happen that the blind child could get to be deaf, or not Why? How?

IDENTIFICATION OF PHYSICAL DISABILITY

1. Do you know anyone who can't walk or has trouble walking or anything at all like that? (Who uses a wheelchair? Crutches?)

(If no)
2. Have you ever seen anyone on TV, or in a store, or on the street, or anywhere who had trouble walking?)

3. What do you suppose it would be like to have trouble walking-- not just to hurt yourself a little, but to have trouble walking all the time?

4. If a person has really serious trouble walking (is seriously disabled), can he ever get better or not? (Why? How?)

5. What causes (physical disabilities, trouble walking, or subject's own words)? Anything else?

a. Tell me about ______________________________. (What is he/she like? What does he/she do?

b. How do you think __________________________ got to be that way?

(If a child is identified)

c. What will _______________________________ be like when he/she is grown up? (An adult?) Why?

(If a child is identified)

d. Will he/she get married or not? Why? Have children or not? Why?

(If an adult is identified)

e. Will he/she always be this way or not? Why?

(If an adult is identified)

f. Is he/she married or not? Does he/she have children or not? (Could he/she get married, have children or not?) Why?

g. What do other people think about _________________________? Does anyone tease him/her or not? Why? Why not?

COGNITIVE-EMOTIONAL PROBLEMS

1. Is there anyone you know who doesn't act like other people? (Who acts odd? Who acts like a baby?)

2. Could you tell me what "mentally retarded" means?

(If yes)
2b. Have you ever known or seen anyone you thought was mentally retarded?

(If no)
2c. What's it like to be smart? Do you know anyone who isn't at all smart?

3. Have you ever met anyone who had trouble talking, who didn't talk or didn't talk like other people? (Who was hard to understand? Who had trouble pronouncing words?)

(If MR is understood at all)

4. What causes mental retardation? (Or subject's word) Anything else?

5. Do retarded people ever stop being retarded or not? Why?

6. What kinds of things can cause people to act different from other people? (Clarify to elicit etiological information) Any other things?

7. If a person (acts different from other people, has an emotional disturbance, or subject's own words) can he ever (start acting like other people, get over it), or not? Why? How?

a. Tell me about ____________________. (What is he/she like? What does he/she do?

b. How do you think ____________________ got to be that way?

(If a child is identified)

c. What will ____________________ be like when he/she is grown up? (An adult?) Why?

(If a child is identified)

d. Will he/she get married or not? Why? Have children or not? Why?

(If an adult is identified)

e. Will he/she always be this way or not? Why?

(If an adult is identified)

f. Is he/she married or not? Does he/she have children or not? (Could he/she get married, have children or not?) Why?

g. What do other people think about ____________________? Does anyone tease him/her or not? Why? Why not?

(Introduce as appropriate)

Story No. 2

Mr. and Mrs. Lincoln have a child, Joe, who acts like a really little kid, even though he isn't. He has a hard time talking. He acts kind of strange. His parent have to decide whether to send him to a regular school, (like the one you go to), or whether to send him to a special school for children with problems.

1. Which do you think they should send him to? Why?

2. What would it be like if they sent him to the regular school? Why?

GENERAL QUESTIONS

1. (We've talked about people who can't see or hear and about people with other kinds of problems.) Can you think of any kinds of problems we haven't talked about yet?

2. Of all the things we've talked about, which would be the hardest to live with? (Would it be harder to be blind or deaf, or to have trouble walking, or something else?) Why?

   Which would be easiest? Why?

3. Suppose a person was completely deaf all his life, and then became able to hear. What would that be like?

4. Have you ever heard anyone use the word "retard" or "a retard"? (What does that mean?)

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THE DEVELOPMENT OF CONCEPTS OF HANDICAPS: AN INTERVIEW STUDY

VOLUME II

Ellice Ann Forman, Milton Budoff, and Barbara N. White

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29 WARE STREET
CAMBRIDGE, MASSACHUSETTS 02138
617-868-0360

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FINAL REPORT

THE DEVELOPMENT OF CONCEPTS OF DEVIANCE IN CHILDREN

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VOLUME II

THE DEVELOPMENT OF CONCEPTS OF HANDICAPS:
AN INTERVIEW STUDY

Ellice Ann Forman, Milton Budoff and Barbara N. White

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ABSTRACT

Handicapped and nonhandicapped children were systematically observed in two mainstreamed preschools over a 2½ year period. The social and nonsocial, appropriate and inappropriate behaviors of these two groups of children were compared; within and across the two schools over time. The purpose of the study was to identify consistent differences between the behaviors of handicapped and nonhandicapped children. A teacher interview and diagnostic information about the handicapped children were used to interpret the observed differences between the groups of children and within the handicapped group.

Thirty-two children in Preschool A (16 handicapped, 16 nonhandicapped) were observed in the winter of 1977 and again in the following spring. Fifty-four children in Preschool B (31 handicapped, 23 nonhandicapped) were observed twice during the 1977-78 school year. Twenty-eight of the 54 children who had been observed in Preschool B in the 1977-78 school year were observed twice more during the 1978-79 school year.

The instrument used to observe these children, called the Analysis of Behaviors in the Classroom-Nursery-Kindergarten Form (ABC-NK) recorded the occurrence of both adaptive and maladaptive behaviors. This instrument was designed to focus on the potential differences between the behaviors of handicapped and nonhandicapped preschool children. The observational instrument was supplemented by a teacher interview (Preschool B only) and by information on the disability of each handicapped subject obtained when he/she entered the preschool.

A series of multivariate discriminant function analyses were performed in order to determine which combinations of the observed behaviors were best able to distinguish the two groups of subjects. Separate analyses were done for each preschool sample at each observation period. Finally, the results of these analyses were compared to determine which behaviors consistently differentiated handicapped from nonhandicapped subjects.

It was found that very few behaviors were consistently associated with only one group of subjects across both preschools and all observation periods. Handicapped children were uniformly higher in the production of strange sounds and noises while alone. Also, handicapped students tended to have more interactions with teachers than their nonhandicapped classmates. However, in Preschool A these interactions involved spending more time alone with the teacher while in Preschool B they involved more teacher-child conversations. Conversely, nonhandicapped children in both preschools consistently spent longer amounts of time engaged in verbal interaction with peers.

Other observed differences between the two preschools in the behaviors exhibited by handicapped and nonhandicapped students were also discussed as were differences between the two Preschool B samples. Teacher interview data and disability information on the handicapped children were used to cross-validate the findings from the discriminant function analyses. In general, handicapped students with fewer and more mild disabilities tended to behave more like their nonhandicapped classmates than did severely disabled children. Repeated measures multiple analyses of variance of each of the behaviors over the four observation periods indicated the positive effects of the socializing experience for handicapped and nonhandicapped children. In a suggestive manner, the ill effects of the summer break on the socializing behaviors of the handicapped children is also indicated.

The strengths and weaknesses of the instruments used and analyses performed for isolating differences between the behaviors of handicapped and nonhandicapped children were discussed. It was suggested that a finer-grained analysis of children's adaptive social and nonsocial interactions might provide useful information about the behaviors of children in mainstreamed preschools. In addition, the importance of interview data for supplementing observations was discussed.

By repeatedly observing children freely interacting in their own preschool classrooms, it was shown that both handicapped and nonhandicapped children exhibit many behaviors that adults judge as inappropriate. Also, neither group of children was found to be systematically excluded from the social life of the classroom. It appeared that the preschool children we observed had successfully adapted to mainstreaming and were busy engaging in the kinds of social and nonsocial interactions that are crucial to development during the preschool years.

ACKNOWLEDGEMENTS

Any observational study requires the diligent efforts of many people to collect the data; refine and develop the instruments; code, transform, store and analyze the data; provide periodic ideas, encouragement and support; write, type and edit the report.

This report would not have been possible without the dedicated work of a rather sizeable group of people. This study could not have been accomplished without the precise and imaginative work of Mrs. Barbara White who constructed the ABC, ABC-NK, and NK instruments, conducted the reliability studies, trained the observers, and did preliminary analyses of the results; Mrs. Rena Mirkin did most of the observations and all of the teacher interviews, Joann Lilla and Donna Leger coded the observations and Lisa Sloane did most of the discriminant function analyses, and Dr. Joel Hoffman, who did the MANOVA's.

Most of all, we must warmly thank Mrs. Eleanore Lewis, director of the Lexington Preschool and Nursery School who acted as a warm, interested hostess, and who encouraged our active involvement in the faculty and student life of the preschool.

Chapter 1 Background to the Study

Despite the lack of data indicating clear-cut superiority for regular or special classes, the present legally mandated direction in special education is away from segregated classes and toward the reintegration of these students within the mainstream of the school (Dunn, 1968; Christoplos and Renz, 1969; Lilly, 1971; Budoff, 1972). The reasons for this trend are clear:

1. Minority group children were over-represented in the special classes. Thus, the special classes are increasingly viewed as racist, a means by which minority group children are under-educated, and by which a self-fulfilling prophecy of low ability is realized educationally. The discriminatory features of the IQ test, which is the primary diagnostic tool, have been detailed abundantly elsewhere.

2. The special class curriculum is often a watered down version of the general education curriculum. The special class teacher does not have access to the schools' remedial support system as do regular class teachers, but must minister to her children with her own resources. The special class children were often excluded by law or local practice from receiving remedial reading, speech correction, and learning disability assistance. Finally, academic instruction in the special class is often given a lesser premium than in the regular grades. The special class teacher often views her role as a promoter of social adjustment rather than as a facilitator of academic competence.

3. Special classes are viewed as stigmatizing to many children, especially those labeled mentally retarded. It has been a common observation that labels have a deleterious effect

upon children. Some support for this observation is available in the literature regarding teacher expectancies, specifically as they apply to retarded children (Beez, 1968), although the empirical evidence is equivocal (MacMillan, Jones, and Aloia, 1974).

The logic dictating application of the principle of least restrictive placement, or mainstreaming, may have its parallel in the logic decrying segregation. Racial desegregation assumes that segregated children (e.g., the handicapped) are subject to adverse labelling; lowered self-esteem; lowered teacher expectations with resultant inferiority of training; stigmatization; social isolation, and lack of exposure to appropriate role models who can help them "normalize" their behavior to fit cultural expectations. All these presumed effects of segregation are hypothesized to result in a lower quality of life for the segregated children, both during their school years and when they reach adulthood.

The shortcomings of the special class, coupled with the long list of "efficacy" studies which failed to demonstrate the superiority of the special class model, led to the search for other educational arrangements for handicapped children.

At this time of the agitation against special classes (the 60's) regular education had been experimenting with a variety of new practices which allowed for greater individualization of education and had dramatically reduced class sizes and with lowered teacher-student ratios. Open classrooms with a variety of activity centers allowed children to pursue various activities that reflected either particular children's special needs or interests, or both, a flexibility in programming that had not been usual in public schools heretofore. Lower student-teacher ratios allowed teachers to program for individual children. Dunn (1969) argued that regular education, because of these practices, was able to cater to a wide diversity of ability levels within a class. Thus, the surmise was that a broad range of handicapped children can also be educated in these settings.

Experience has shown regular class teachers can accomplish this feat with considerable effort and planning. Successfully educating handicapped children in regular classes is a more formidable task, frequently, than simply providing them with an individualized curriculum. These children are often deficient in cognitive skills, a broad range of motivational attributes, and have poor socializing skills which may separate them from the other children. Taken together one might hypothesize the experience in regular classes may decrease his pleasure in school, and probably, his willingness to work effectively on academic tasks. After one year in a controlled study, children placed from special into regular classes showed an exhilarating effect of the placement, more positive feelings about school, and excellent behavior in the classrooms by contrast both with children retained in special classes, or their regular classmates (Budoff and Gottlieb, 1976; Gampel, D.H., Gottlieb, J. & Harrison, R.; Gottlieb, J., Gampel, D.H., & Budoff, M.)

The consequences of mainstreaming are poorly understood. One must utilize a range of criteria to understand its impact--the child's actual adjustment, as defined by his observed behaviors and his achievements, his/her perceptions of satisfaction and acceptance in the mainstreamed classroom, his peers' acceptance of him, his teachers' perceptions of his adjustment and their sense of comfort working with him, and his parents' sense of comfort and satisfaction with this placement. For example, many parents and teachers have considerable difficulty considering mainstreaming a physically handicapped child in a wheelchair, who can otherwise do the work in the classroom.

The goals of a mainstreamed program are not clearly understood. Underlying the principle of mainstreaming is the policy of normalization, which has been defined as assuring the developmental growth of each handicapped child is maintained in the most normal setting possible using the most normal teaching methods possible (Galloway and Chandler, 1978). The goals of this practice have been stated for preschool handicapped young children as:

1. Stigma reduction removal. To the extent that teachers, peers, professionals can not easily spot developmental deviations among the members of a preschool group, to that extent, many handicapped children may escape the notice of most visitors, and many peers, who are not aware of handicaps per se (Budoff and Conant, 1980). While visibly apparent problems, whether physical or behavioral, will make the handicapped child stand out in the class, these children's deviations within a segregated program will be easily noticed by the casual classroom visitor. The set for seeing handicaps in children in the segregated class works to implicitly stigmatize him, while the same handicapped child immersed in a group of nonhandicapped children may not be identifiable.

2. Contact should reduce negative attitudes. There is a presupposition in the philosophy of mainstreaming that physical integration of the handicapped and nonhandicapped will lead to social interaction between members of the two groups and that this social interaction will be constructive rather than destructive, thus reducing stereotypes which nonhandicapped children or teachers may hold against the handicapped.

Some evidence does seem to exist that handicapped children are less well accepted by "normals" than are their nonhandicapped peers (Cavallo and Porter, 1980; Centers and Centers, 1963; Clark, 1964; Cooke, Apolloni and Cooke, 1977; Force, 1956; Gottlieb and Budoff, 1973; Guralnick, 1980; Johnson, 1950; Lapp, 1957; Peterson and Haralick, 1977; Richardson, Ronald, and Cleck, 1974; and research reviews by Gardner, 1966; and Levitt and Cohen, 1976). Some researchers (e.g., Jones and Sisk, 1967; and Kennedy and Bruininks, 1974) indicate that acceptance of handicaps may be related to age, e.g., younger children being more accepting than older ones.

Since teachers are critical to mainstreaming, it is surprising there is so little research on teacher experiences and attitudes and behavior toward mainstreamed children. Shotel, Lano, and McGettigan (1972) queried 128 teachers in six Philadelphia schools, three of which were in the first year of mainstreaming with resource rooms and three of which had self contained special classrooms, to serve as controls. After this first year, teachers did not indicate more positive feelings toward the emotionally disturbed children and expressed less favorable attitudes toward the retarded children. The more positive attitudes were expressed toward the learning disabled children. The findings from this early literature with this practice is that regular classroom teachers do not favor the integration of even mildly handicapped children (Guerin and Szatlocky, 1974; Gickling and Theobold, 1975), and those school personnel who were most affected by mainstreaming were the least accepting of it, even for the mildly handicapped (Barngover, 1971).

3. Mainstreamed programs should provide nonhandicapped models to enhance the behavior and social and academic of the preschool handicapped child. "Normal peers seem to constitute nonthreatening models from which the handicapped...can learn more than they typically do from their impaired peers" (Wolfensberger, 1972, p.51). This modelling will presumably reduce the frequency of inappropriate behavior. However, modelling generally depends on interaction between the model and the person who is imitating the model's behaviors. The little empirical data does not support the assumption that the physical integration of a stigmatized group into a classroom assures spontaneous social integration for the mentally retarded (Ray, 1974), behaviorally disordered (Allen, Benning, and Drummond, 1972), or disadvantaged students (Feitelson, Weintraub, and Michaeli, 1972; Karnes, Tesja, and Hodgins, 1970).

Similarly, Gampel, Harrison, and Budoff, (1972), reported the school age EMR child in the integrated class interacted less frequently with his/her peers and with a teacher than in a special class. Grosenick (1969) also found the hand-raising behavior of handicapped children decreased after integration. Reviewing this literature, Snyder, Apolloni, and Cooke (1977) concluded that integrated settings do not necessarily result in increased cross-group imitation and social interaction between handicapped and nonhandicapped classmates. Gouldner's finding (1978) of low teacher-child interaction among nonhandicapped children characterized by teacher as "nobodies" suggests handicapped children may suffer the fate of low socially valued children.

Peterson and Haralick (1977), studying preschool children, found more spontaneous interaction among the handicapped and nonhandicapped than did some of other researchers, particularly those working with school aged children. However, they also found a tendency for nonhandicapped preschoolers to prefer other nonhandicapped children as playmates and to prefer isolate play to cooperative or parallel play when handicapped children were the only available playmates in a given play area. Haralick (1978) noted that handicapped preschoolers seemed to have a teacher or aide present in a play area while engaging in cooperative play with nonhandicapped far more frequently than did the nonhandicapped children when playing with each other. The adult presence may add prestige to play the area containing handicapped children that may serve as an impetus for cooperative interaction.

There is some evidence that teacher intervention can increase both the quality and quantity of interaction among members of the two groups. Devoney, Guralnick, and Rubin (1974) found that the introduction of handicapped children into a preschoool playsetting had no effect on the quality of play evidenced by handicapped children until the teacher structured the situation to encourage interaction (see also Fredericks, et al. (1978)).

To examine the longitudinal effects of mainstreaming on the handicapped preschoolers, between January 1977 and June 1979, systematic observations were made of handicapped and nonhandicapped children in two mainstreamed preschools. These observation were colllcted to assess the nature of the social interactions of handicapped and nonhandicapped children and to examine the changes that occurred in these interactions over time. In addition, teachers in one of the preschools were asked to rate each child's level of participation in classroom activities, his or her communication skills, physical appearance, etc. These ratings were then compared with the behavior observations of both groups of children and with diagnostic information obtained from the school folders of the handicapped children.

The aims of this study were:

1. To describe the similarities and differences that characterize the behaviors of handicapped and nonhandicapped preschoolers across both preschools and all observation periods;
2. To describe how the differences between the behaviors of handicapped and nonhandicapped children changed over time;
3. To discuss systematic differences between the two preschools in how both groups of children behaved;
4. To determine the degree to which past behaviors, teachers impressions of a child's functioning and appearance, and diagnostic information (handicapped children only) are able to predict a child's recent classroom behavior.

At one school, which we will call Preschool A, observations were made during the winter and spring of 1977. Preliminary analyses of these data have been reported previously (Budoff, Conant, Peyton, 1979) and the final analysis of these data is reported below.

Observations were collected at the other school, Preschool B, during the fall of 1977, the spring and fall of 1978 and the spring of 1979. The final analysis of these data is reported here. The observational data from Preschool B were supplemented by a teacher interview instrument administered in June, 1979. In addition, diagnostic information describing the presenting disability of each handicapped child was obtained from the school files.

The ABC-NK and NK Observation Instruments

The instrument used to systematically observe and record children's social interactions is known as The Analysis of Behaviors in the Classroom (ABC) which was originally developed to record the behaviors of school-aged children and was later modified in the ABC-NK and NK versions for use in preschool mainstreamed classrooms. The ABC is described in detail in Appendix 3-1 and will be briefly outlined below.

Unlike many observation instruments, the ABC was developed after a prolonged period of observation of the behaviors of handicapped children who had been integrated into regular classes while still attending a special education learning center. The observer (B. White) watched these children in the regular classes and the special education setting; wrote vignettes of the behaviors they exhibited in social interactions with their peers, whether handicapped or nonhandicapped, and with their teachers. We sought to develop an instrument that would allow the richness of Barker's (1963) running behavioral descriptions of the single cases he observed, recognizing that our desire to compare behaviors exhibited by different children would compel a more structured coding method to identify particular variables for analysis. In this early phase, the observer (B. White) sat in classrooms over a period of six months watching the target children in the two types of educational settings, and observing the kinds of behaviors the handicapped children displayed while they were with their peers and their teachers. The task for teh school was to feed back information relevant to their social competence; for the instrument development process, to identify the variables that characterized the children's behavior so an initial or trial form of the instrument could emerge. Piloting and the structure of the instrument took shape during the following four months. A second six months was spent designing and piloting observation techniques that would tap these behaviors. It is characteristic of the clinical approach that there is no fixed commitment to one particular way of looking at a child. As one observes in a classroom, one might notice critical incidents. At another moment, one might focus of the quality of verbal interactions or on a child's proximity to or distance from others. At other times, the observer's attention might be drawn to nervous or annoying habits of a child. The instrement that evolved was a multi-perspective one rather than a single-strategy instrement.

Approximately one year after the development of the ABC we extended it for use in nursery and kindergarten schools -- the ABC-NK, during the first year this project was funded. Some categories of behavior were changed; a few were added.

The ABC-NK and NK instruments provide a multifaceted approach to the analysis of behavior in mainstreamed preschools. They assess behaviors one would expect to find in any preschool, e.g., verbal interaction with peers, as well as maladaptive or inappropriate behaviors one might associate with severely handicapped children, e.g., strange noises and gestures. The inclusion of these maladaptive behaviors makes the ABC-NK and NK different from observation instruments used in nonintegrated preschools. One of the goals of this study is to determine whether the ABC-NK and NK are sensitive indicators of the differences between handicapped and nonhandicapped children.

During each data collection period (usually the fall or spring of a school year), each child is systematically observed four to six times. Most observations last twenty minutes, although a few had to be ended early due to the usual constraints imposed upon naturalistic observation in classrooms. No observation lasting less than fifteen minutes was included in the data analysis. In addition, each child's four to six observations per data collection period were equally divided between structured and unstructured settings. In structured settings a child's behavior is closely guided by the teacher and his/her mobility is somewhat restricted. Unstructured settings roughly correspond to free-play periods where the child can move about the room if he/she wishes, talk to peers, and be involved in choosing his/her activity.

The ABC-NK and NK are both divided into four major sections. The first section is used to keep track of the child's physical placement on the classroom. Each second a child spends isolated from others, with other children (the teacher may be present as well), and alone with the teacher is recorded. These counts have been analyzed only for those activities which have not been determined by the physical setting or the teacher--but may have been determined by the target child and/or other students. Thus, time spent in isolation with the teacher because the child initiated the contact will be analyzed, but time spent alone with the teacher because the teacher required it, will not be examined. The total number of seconds spent isolated, with others, and with the teacher is then divided by the length of the observation period to yield percentages of observed time spent in these three different settings.

The second section of the ABC-NK and NK is used to note the occurrence of selected, mostly maladaptive or inappropriate behaviors. These behaviors include distraction, aimless wandering, noncommunicative sounds and noises, nonfunctional gestures and movements, inappropriate materials use and teacher-initiated interventions into the activity of the target child. Whether the child was isolated or with others when these behaviors occurred was also noted.

The third section of the observation instrument assesses the percentage of time the target child spends during the observation period engaging in verbal interactions with peers or with the teacher. These interactions must be neutral or positive in tone and involve the target child as either a conversational initiator or respondent. Instances in which the teacher instructs the child in a lesson are not recorded here.

The final section of the instrument is used to note unusually positive or negative interactions between children. Due to the relative rarity of these interactions, fine-grained statistical analysis of their nature is impossible. However, the occurrence or nonoccurrence of a negative interaction was observed reliably (see Table 2) and has been included in some statistical analyses.

As yet, the ultimate value of this final section of the ABC-NK and NK has not been adequately assessed due to the rare occurrence of these events in a relatively small sample of subjects (e.g., under 100). It is quite likely, however, that single occurrences of an unusually positive or negative interaction do exert a significant influence on the social structure of the classroom. Further research with the instrument will try to use the observer's or teacher's clinical judgements concerning the impact of these rare events to more adequately assess their importance.

Two inter-rater reliability studies were conducted, one for each of the instruments used (the ABC-NK[1] and the NK) after the observers were trained and before the data collection began. The first reliability study, done with the ABC, employed three observers who worked in pairs. A total of 106 paired observations were collected to assess inter-rater reliability on the ABC. Intraclass correlations (Winer, 1971) were used to assess inter-rater agreement on each of the variables (see Table 1).

Due to the infrequent occurrence of certain variables, their intraclass correlations were low (i.e., below .70). Some of these rare variables were recoded as dichotomous variables (0=nonoccurrence, 1=occurrence) and kappa (Cohen, 1960) used to assess their level of inter-rater reliability (see Table 2). All variables which were recoded to dichotomous variables for the computation of reliability were used as dichotomous variables in all further data analyses. As you can see from Table 1, most of the ABC-NK variables had intraclass correlations of .70 or above. A few variables which had low intraclass correlation received relatively high kappas (.70 or above) after they were recoded.

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[1] The reliability study for the ABC-NK was done using the original ABC instrument. Since the two instruments are basically similar, no new reliability data were collected on the ABC-NK.

An identical procedure for computing inter-rater reliability was used for the NK instrument. The intraclass correlations for each NK variable included in the reliability study are listed in Table 3. Kappas for recoded NK variables with low intraclass correlations were also calculated. However, the kappas for all these recoded variables were very low. Therefore, only the variables receiving intraclass correlations of .70 or above were included in further analyses.

It should be noted at this point that it is very difficult to conduct a comprehensive reliability study of as diverse an instrument as the ABC-NK or the NK. Some variables (e.g, percent of time spent isolated) can be observed with high inter-rater reliability on a small set of subjects while others (e.g., unusually positive or negative behaviors), due to their relatively rare occurrence, may require an enormous sample size. We found that even as many as 106 paired, 20-minute observations provided insufficient opportunity to reliably observe some important but infrequent behaviors. Unfortunately, rigorous measurement procedures require that instruments demonstrate their reliability before they can be used to guide our understanding of behavioral events. Thus, the possible value of some rare but potentially important interactions can not be assessed in a study of this size and scope.

The Teacher Rating Interview (Used in Preschool B Only)

In June 1979, teachers in Preschool B were asked by a familiar interviewer to describe the appearance and behaviors of each subject.

The interview followed a pre-set format which included open-ended questions and rating scale items. See Appendix A for a copy of the interview instrument. In addition, the interviewer was asked to fill out an interview form herself on each child before she talked to his/her teacher.[1] Inter-rater reliabilities were calculated for each of the rating scale questions and are reported in Table 4.

The purpose of the teacher interview was to get an independent assessment of each child's classroom behavior and appearance to compare with the other data we collected. In particular, we wanted to see how well the teacher's impressions correlated with the behavior observations and the diagnostic information obtained from the school files of the handicapped children.

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[1] The interviewer was the same person who performed most of the behavior observations in these same classrooms. Therefore, she knew the children very well. Her ratings were used to estimate inter-rater reliability on the interview instrument.

Chapter 2

STUDY 1 - PRESCHOOL A

Method

Subjects

Thirty-two children were observed in Preschool A (16 handicapped and 16 nonhandicapped children; 12 females and 20 males.) The sixteen handicapped subjects made up the entire Preschool A population of handicapped children receiving parental permission to participate. The handicapped subjects were then matched with same-sex nonhandicapped classmates to form the sample of 32 children.

Age, Sex and Integrated Experience of Subjects

As of June 30, 1977, the handicapped subjects ranged in age from three years, one month to seven years, two months (mean age = five years, five months) and the nonhandicapped subjects ranged in age from two years, six months to six years, two months (mean age = four years, seven months). Therefore, on the average, the handicapped subjects tended to be one year older than the nonhandicapped subjects.

The handicapped children had spent from one to three school years in Preschool A (mean amount of integrated preschool experience = one year, seven months), while the nonhandicapped children had attended Preschool A from one to four school years (mean amount of integrated preschool experience = one year, four months). Both handicapped and nonhandicapped subjects seemed to have had similar amounts of experience with this mainstreamed preschool.

Diagnostic Information on the Handicapped Children

We found the diagnostic information available to us from the handicapped children's files difficult to interpret because of its variability across children[1]. For some children, specific, readily interpretable, diagnostic data were available in their files, e.g,, trauma induced paraplegia (no motor control or sensitivity below the waist). However, many other children had received vague and difficult to interpret diagnoses: "delayed," "slow speech and language development," "emotional problems." Vague, confusing and perhaps misleading diagnostic terminology was found in the school records of the handicapped children in both preschools. It was obvious that personnel with a wide range of diagnostic expertise had evaluated these children. In addition, many of the children seemed to have exhibited a variety of ill-defined and poorly-understood difficulties when they were evaluated as toddlers, infants, or young preschoolers. Unfortunately, we were unable to obtain supplementary diagnostic information for subjects in Preschool A.[2] Therefore, a procedure was devised to categorize this diagnostic information taken from the records of both preschools so that some kind of analysis could be performed using it.

A preliminary survey of the range of diagnostic information indicated that a set of 11 coding categories would be sufficiently broad to categorize the range of presenting diagnoses of the handicapped preschoolers in both schools. The 11 coding categories are presented in Table 5. As you can see, an attempt was made to indicate both the nature of the disorder and the degree of severity. However, in some cases the degree of severity was difficult to determine due to inadequate or vague information, e.g., "speech problems." Degree of impairment was particularly difficult to determine in the area of behavioral or social-emotional problems; thus, severity was not coded for this disability area.

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[1] Note: The diagnostic information used throughout represents information noted in the child's records when she/he entered the preschool. In some cases, these presenting difficulties changed or improved while that child was in the preschool, by the time the child was observed.

[2] The diagnostic information for those subjects in Preschool B which proved to be the most vague and confusing was supplemented informally by interviewing the director of Preschool B.

After the codes were devised, two coders independently read the diagnostic information available for each handicapped subject in both preschools and assigned one or two disability codes to each child. When a subject's records listed more than two diagnoses, the two disabilities with the greatest degree of salience were selected. Salience was determined by the: 1) severity; 2) amount of information available in the records; 3) order in which the disabilities were listed in the records; and 4) elimination of redundant information.

Therefore, moderate or severe disabilities were always coded before mild ones. If a child was diagnosed as having severe cerebral palsy, the fact that she/he was also described as being clumsy was not coded in addition to the cerebral palsy. If several speech or language disorders were described, then some coding for speech or language disability was done. Each handicapped child received two disability codes (those children with only one diagnosed disability received one code for their disability and the missing data code).

Disregarding the order in which the disabilities were coded, the two coders agreed 81% of the time (26 agreements/32 agreements + disagreements; kappa = .79) on the coding of disabilities for children in Preschool A and 85% of the time (68 agreements/80 agreements + disagreements; kappa = .82) on the coding of disabilities for children in Preschool B.

The few disagreements that did occur tended to involve judgements of severity rather than disagreements concerning the nature of a child's diagnosed handicap. Disagreements also involved redundant disabilities and judgements concerning the most salient of multiple mild and poorly defined diagnoses. Serious disagreements concerning the Preschool B data were resolved by asking the director of Preschool B to assess the predominant presenting difficulty of a small subset of handicapped children.

The presenting diagnoses of the handicapped children in Preschool A varied considerably. When the disabilities of these children were classified according to the system displayed in Table 5, and a cross-classification table constructed to describe the two major disability groupings for each subject, no cell was found to contain more than two subjects. (See Table 6.) Some disability classifications are missing from Table 6 because no child in Preschool A was coded as belonging to those classification groups.

When Table 6 was reduced in size by ignoring degrees of impairment within one particular classification (e.g., mild cerebral palsy was combined with moderate and severe cerebral palsy), the resulting table contained seven rows and five columns. This reduced table still showed no more than two subjects per cell. Therefore, it was decided to reduce the number of diagnostic categories represented by these data by recoding according to severity judgements and numbers of handicaps described.

The following categories were devised to create a severity of impairment scale based on the original disability codes:

0 Missing disability information
1 One mild disability
2 Two mild disabilities
3 One severe disability with or without any mild disabilities
4 Two severe disabilities

Children who were coded as exhibiting behavioral or social problems or invisible/other handicaps were recoded as belonging to a mild disability category. Table 7 shows the distribution of this severity of impairment scale across the sixteen handicapped preschoolers in Preschool A. Because the disabilities of these handicapped children were so dissimilar, we were forced to use the more global coding of severity of impairment in the statistical analysis of the data from Preschool A.

Procedure

Data Collection. Observational data were collected at Preschool A in the winter and again in the spring of 1977. Each subject was observed for approximately 20 minutes five or six times during the winter data collection period and for the same amount of time in the spring. The observers were instructed to observe each subject in both structured (e.g., story telling) and unstructured (e.g., free play) classroom settings. The NK observation form was used to record behaviors as they occurred during the 20-minute observation period.

The observations were then transferred onto coding sheets and keypunched. Each subject's winter scores were computed by averaging across five or six observation periods. The same procedure was followed for the spring data. In addition, all scores were multiplied by a proration factor to adjust for minor variations in the length of observation periods and to equate the number of observations done in structured and unstructured settings. These two data sets (winter and spring) of prorated mean scores for each subject formed the data base for the analysis of observed behaviors reported below.

Data Analysis. The analysis of behavior observations presents a number of methodological problems regardless of the instrument used or the population studied. Counts of the occurrences of certain pre-selected behaviors or of seconds spent in a particular activity (the kinds of measures used by the ABC-NK and NK) have the advantage of being discrete, continuous, quantifiable entities. However, the population distributions of these sorts of variables are not known--for either nonhandicapped or handicapped preschoolers. Some of the behaviors counted may occur so infrequently in a sample size of under 100 to be virtually unmeasurable.

In addition, the meaning of the relative sizes of variables such as these is not immediately obvious. For example, it is not clear whether spending an average of 40% of observed time in isolation is twice as isolated as spending an average of 20% of the time in a similar situation. In other words, the interpersonal meaning of an act may follow a completely different metric than the simple counting of seconds or occurrences. A child may be ignored if she/he hits another child once every two weeks but a child who hits another once a week or twice a week may be avoided by others. (Obviously, the context in which the behavior occurs contributes a good deal to the meaning of the act as well.) Because the meaning of these variables and their distribution in larger samples of subjects are unknown, a good deal of caution must be exercised in analyzing data generated in a study such as this and interpretating its findings.

Finally, because the population distributions of these variables are unlikely to be normal and because the observations themselves are not independent (e.g., each child is observed in a classroom interacting with other children who are subjects in this study) the statistical analyses used in this study are intended for descriptive not inferential purposes. Any findings reported here should be understood as results that describe a small set of classrooms in two mainstreamed preschools in the Boston Metropolitan area. These results may not generalize to other integrated preschools in Boston or elsewhere.

It was decided that the most parsimonious approach to the analysis of the behavior observations and teacher rating data was to perform a small set of multivariate analyses. In particular, discriminant function analysis was used to reduce the large variety of behavioral variables to a smaller set which maximize the observed differences between handicapped and nonhandicapped children. The advantage of a multivariate technique like discriminant function analysis is that variables which overlap with other variables can be eliminated, that multiple significance tests can be avoided, etc. The disadvantage of multivariate analysis are that the results can be hard to interpret, are often dependent upon the order in which variables are entered, and are easily distorted by poorly distributed variables.

To guard against some of the more obvious sources of error in multivariate analysis, the frequency distributions of all variables across all the subjects but within one data collection period were examined. All variables which were observed too infrequently (well over 50% of the subjects never exhibited this behavior) had to be eliminated. If the distribution of a variable was bimodal, grossly skewed, etc., it was recoded to minimize these distortions. In general, most bimodal variables were recoded into median splits (above and below the mdian) to create a dichotomous variable. Most of the recoding done consisted of simple dichotomous splits or arithmetic transformations. Time constraints did not permit us to try other permissible but more complicated transformations (e.g., logarithmic, etc.) although these may be useful techniques to try in the future.

The fourteen variables from the NK that were used to compare the behaviors of handicapped and nonhandicapped subjects in Preschool A are listed in Table 8. These variables were selected because they were observed with high inter-rater reliability (intraclass correlations or kappas greater than or equal to .70), occurred frequently enough to be measured, exhibited roughly normal distributions and did not overlap to any significant degree with other variables on the list (bivariate pearson correlation coefficients less than .80).

All variables used in the analysis of Preschool A data represent average frequencies (or percentages) of occurrence across the five or six observation sessions that occurred within one data collection period. In addition, these variables were prorated to adjust for minor differences in the length of the observation periods and for slight differences in the number of structured vs. unstructured settings observed.

The discriminant analysis enables one to reduce a relatively large number of variables to a smaller number of discriminant functions that will maximally differentiate two or more existing groups of subjects. In the case of two groups of subjects such as we have in our data (handicapped and nonhandicapped), the discriminant analysis produces one function which is a linear combination of the original variables.[1]

The discriminant analysis provides several kinds of information. It computes a set of standardized coefficients which identify the relative contributions of the original variables to the discriminant function. For example, a variable with a coefficient of .8 contributes twice as much to the function as does a variable with a coefficient of .4. The sign of the coefficient shows the direction of the variable. Thus, if the nonhandicapped children are given positive discriminant function scores, variables with positive signs characterize the behaviors of nonhandicapped children while variables with negative signs are more typical of the behaviors of handicapped children.[2]

The discrimiant analysis also computes function scores for each subject which enable it to predict the group membership of that case. Using each subject's function score, one could rate each subject as being more or less like members of the other group (e.g., a handicapped child may act more or less like his/her nonhandicapped classmates). The number of correctly predicted group members is an indication of how well the discriminant function is able to differentiate the two groups.

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[1] The direct method was used in all the discriminant analyses performed. This method produces coefficients for all the variables used in each analysis. Variables receiving coefficients that are close to zero are not important contributors to the function. The direct method enables one to follow the position of any single variable over time.

[2] The sign of the discriminant function coefficient of any one variable should not be confused with the social value of that variable. Thus, negative coefficients do not mean negative behaviors. Sometimes the handicapped children had negative coefficients attached to their behaviors and sometimes they had positive coefficients. The coefficient sign (negative or positive) is a statistical artifact of the discriminant function procedure.

Results

The behaviors of both handicapped and nonhandicapped subjects were compared at the two different data collection times (winter and spring of 1977). The means and standard deviations on the fourteen variables from the NK observation form for the two groups of subjects are presented in Tables 9 and 10. This same set of fourteen variables was input to the discriminant function program twice, once for the winter and once for the spring.

Winter Data Collection

The results of the discriminant analysis for the winter data collection period are displayed in Table 11. The variables with the largest negative coefficients are most indicative of the handicapped end of the continuum of discriminating behaviors while the variables with the largest positive coefficients are most like the behaviors of the nonhandicapped student.[1] Table 11 shows that in the winter of 1977, handicapped students were more likely to spend time alone with the teacher, to be involved in unusually negative interactions with others, to be seen aimlessly wandering around the classroom, to be producing inappropriate sounds or noises, and to be covertly watching others.

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[1] See footnote 2 on page 16.

Also, the teacher is more likely to intervene in and redirect the behavior of handicapped students.

Notice that while handicapped children are more likely to exhibit inappropriate body and facial gestures and movements when alone and with other people, nonhandicapped children also exhibit inappropriate gestures and movements while with others. Therefore, these kinds of seemingly inappropriate behaviors were characteristic of both groups (although they may occur in slightly different contexts) and so may not be as important in differentiating the behaviors of handicapped from nonhandicapped children. Facial gestures, which was ranked low in the handicapped end of the behavioral continuum because it received such a low negative coefficient is not a major differentiator of the behaviors of the two groups of subjects.

The nonhandicapped subjects were more likely to use materials inappropriately while with other children (they may also use materials appropriately, but we have no measure of that behavior), to engage in verbal interaction of a positive or neutral nature with both the teacher and their peers, and are somewhat more likely to spend time alone. Time spent with others received such a low positive coefficient that it is not an important discriminator of the differences in behavior between the two groups.

The first interesting finding to note from these results is some of the strange, inappropriate behaviors were exhibited as frequently or more frequently by nonhandicapped preschoolers as by their handicapped classmates. Using materials inappropriately is something nonhandicapped children were more likely to do in Preschool A during the winter of 1977, although this finding may be due to their greater use of materials, both appropriately and inappropriately, especially in the presence of other children. Also, both handicapped and nonhandicapped children exhibited gestures and movements which adult observers felt were nonfunctional or unusual.

The handicapped children seemed to differ from the nonhandicapped classmates in the amount of time they spent alone with the teacher and in the somewhat greater frequency with which she/he was seen as directing their behaviors. Interestingly enough, however, the nonhandicapped children were more likely to talk to the teacher. Perhaps the generally superior language skills of the nonhandicapped group enabled them to communicate more easily with the teacher over greater distances, thus resulting in their spending less time in close and exclusive physical proximity with him/her. Conversely, the teacher may have been able to communicate her/his desires more easily to the nonhandicapped children through verbal channels, thereby reducing need for her/him to appear to directly intrude upon and redirect their activities.

The handicapped children appeared to exhibit more behaviors typical of social isolation or exclusion than nonhandicapped children--wandering aimlessly around the room, covertly watching the activities of their peers, making strange noises and sounds, and engaging in more fights or other negative interactions. However, these activities were less important differentiators of their behaviors than the amount of time they spent alone with the teacher.

In contrast, the nonhandicapped children were more likely to spend greater amounts of time talking to their classmates and the teacher. Although percentages of the time spent alone was a variable listed as falling in the nonhandicapped end of the continuum, it was a relatively minor contributor to the discriminant function.

When discriminant function scores were computed for each subject observed during the winter of 1977, and their probable group membership estimated from their scores, 91% of the subjects were correctly classified into handicapped or nonhandicapped groups. The three subjects who were misclassified on the basis of their discriminant function score were all in the handicapped group.

The one handicapped child whose behavior overlapped considerably with that of the nonhandicapped group had been diagnosed as "speech impaired, language delayed with emotional overlay and cognitive slowness" when she entered the preschool. Unfortunately, we have no independent assessment of her functioning at the time the behavior observations were made. In order to correct for this lack of corroborating evidence in Preschool A, we decided to administer a teacher interview in Preschool B. However, we were unable to collect similar data in Preschool A.

The other two handicapped children whose group was incorrectly predicted by the discriminant function were diagnosed as having "50% bilateral hearing loss, (he) wears dual hearing aids at all times" and as "paraplegia trauma (induced)." Without more information about the courses of development of these three children or about possible compensating personality traits, it is risky to guess why they did not appear as distinct from their nonhandicapped peers as did other handicapped children. However, while visible and apparent to other children, these handicaps can be easily managed without evident damage to interpersonal relations.

Spring Data Collection

The results of the discriminant analysis for the spring data collection period for Preschool A are displayed in Table 12. Again, the variables with the largest negative coefficients are most indicative of the handicapped end of the continuum of behaviors. As you can see, the handicapped subjects tended to make more strange sounds and noises, to engage in more negative interactions with others, to spend more time alone with the teacher, and to spend more time in close physical proximity with other children. Variables which are less important in differentiating the behaviors of the handicapped subjects from those of their nonhandicapped classmates are percent of time spent alone and the total number of gestures and movements while in the presence of others. Covert watching and distraction while alone and verbal interactions with the teacher are on the handicapped end of the continuum but are not important in defining the function.

Conversely, the nonhandicapped subjects spend more time in verbal interaction with peers. In the spring, the teacher seems to intervene in and redirect the behavior of the nonhandicapped subjects more than the handicapped subjects. The nonhandicapped subjects exhibit more facial gestures and use materials inappropriately. Aimless wandering plays a very small role in differentiating them from the handicapped subjects.

The spring data collection presents a slightly different picture of the nature of the behaviors which differ between the two groups. The handicapped children are still making inappropriate sounds and noises which tend to make them look different from the nonhandicapped children. They are also more likely to be involved in fights and other negative interactions. They continue to spend time alone with the teacher but they also spend time with others, and to a lesser extent, are more isolated as well.[1]

Once again, one measure of the number of strange gestures appears on the handicapped end of the continuum while another measure of strange gestures appears on the nonhandicapped end of the function. Thus, the tendency to exhibit strange or inappropriate gestures and movements is typical of both handicapped and nonhandicapped subjects.

Summary of Findings for Both Winter and Spring

In summary, the handicapped subjects are involved in more unusually negative interactions than are their nonhandicapped peers in both the winter and the spring. However, by the spring, the handicapped children are no longer wandering or doing as much covert watching. The teacher is still heavily involved in their activities--through physical proximity--but is doing more active intervention in the activities of their nonhandicapped classmates. The handicapped children are spending more time with other children than in the winter, although this close physical proximity does not seem to increase appreciably the amount of verbal interaction with peers.

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[1] Since these percentages are averages across five or six observation sessions, the averages do not add up to 100%. The fact that these three time-percentage variables all define the handicapped end of the continuum makes it more difficult to describe this function. However, it should be kept in mind that spending time alone with the teacher is more than twice as important in determining the discriminant function as the percent of time spent alone.

Finally, instead of talking, the handicapped children are making more inappropriate sounds and noises. The limited language facility of some of the handicapped children may be the cause of the paucity of verbal interaction despite their physical proximity. This increase in the physical proximity of handicapped children with other handicapped children and the teacher may be an indication that the handicapped children are making more nonverbal social overtures in the spring. Whether or not this increase in physical proximity marks the beginnings of more mature peer interaction can only be hypothesized.

The nonhandicapped children appear to exhibit verbal skills which are superior to the handicapped classmates in the spring as well as the winter. Verbal interactions of a positive or neutral character with peers figure prominantly in their behavior. The teacher appears to be more directive in his/her interactions with the nonhandicapped children in the spring. Finally, the nonhandicapped children are still somewhat more likely to use materials inappropriately while in the company of others than are handicapped children.

When discrimination function scores are computed for each subject and their group membership predicted from their score, 100% of the cases were correctly classified. This indicates that the spring discriminant function is a perfect predictor of group membership--for the sample of subjects used to generate it. Of the three handicapped children who were misclassified on the winter discriminant function, only one received a spring discriminant function score nea the nonhandicapped range--this subject was the girl diagnosed as paraplegic. The relative stability of this child's score with respect to the rest of her handicapped peers seems to indicate that her severe physical handicap did not prevent her from engaging in the kinds of verbal interactions of a positive or neutral character with peers that were more typical of nonhandicapped children. If the ability to engage in positive, verbal interactions with peers proves to be an important differentiator of handicapped and nonhandicapped children in other preschool settings, then one might expect that other children whose handicap does not hamper their ability to carry on age-appropriate conversations (such as children with mild or severe orthopedic handicaps) may also be hard to distinguish from their nonhandicapped peers on the ABC-NK or NK.

Finally, we were interested in how well the discriminant functions related to each other. The correlation between these two measures for the entire Preschool A sample was .74. Therefore, the two scores share about 55% common variance.

Chapter 3 STUDY 2 - PRESCHOOL B

Method

Subjects

Between September 1977 and June 1979, 81 children (47 males, 34 females) were observed for at least one entire observation period. Forty-one of these 81 children had been designated as handicapped. These children ranged in age[1] from three years to eight years, eight months (mean age = five years, eleven months). They had spent from eight months to five years, eleven months as students at Preschool B (mean amount of mainstreamed preschool experience = two years, eight months).

Of these 81 children, a smaller group of 54 (31 males, 23 females) was observed twice during the first school year (September 1977 - June 1978) and 28 children (13 males, 15 females) were observed four times during both the first and second school years (September 1977 - June 1979). Only three children were observed during the second school year only. Because we were interested in comparing the behaviors of children over time, we decided to limit our data analyses to those subjects observed twice during the first year (n=54) or four times during both the first and second years (n=28).[2] Henceforth, we shall refer to the first sample seen during year one as the first-year sample and to the second sample as the two-year sample.

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[1] Age and preschool experience were calculated by subtracting each child's date of birth and date of entry into Preschool B from June 30, 1979.

[2] Note: These samples overlap since all the subjects observed for two years are also included in the sample observed for only one year.

Age, Sex and Integrated Experience of Subjects. The age, sex and amount of preschool experience for both handicapped and nonhandicapped subjects in the total sample (n=81), the first-year sample and the two-year sample are presented in Table 13. In the entire observed sample, the handicapped subjects were, on the average, about seven months older than their nonhandicapped classmates. In both the first-year and the two-year samples, the handicapped subjects were at least a year older, on the average, than the nonhandicapped subjects.

The sex ratios in the handicapped and nonhandicapped groups in all three samples were also unbalanced. In all the samples, males outnumbered females in the handicapped groups and females outnumbered males in the nonhandicapped groups. The ratio of the males to females in the entire handicapped sample and in the first-year handicapped sample was greater than 2:1. This ratio was reduced in the two-year handicapped group.

In general, both handicapped and nonhandicapped groups had spent a similar amount of time on the average in Preschool B. However, the handicapped children in the two-year sample had spent an average of one-half year longer in that mainstreamed setting than their nonhandicapped comparison group.

In summary, the differences that were found between the handicapped and nonhandicapped groups in terms of age, sex ratios and preschool experience tended to be similar across the three samples. The handicapped children were found to be from seven months to a year and three months older, on the average, than their nonhandicapped peers. Boys outnumbered girls in all the handicapped groups and girls outnumbered boys in all the nonhandicapped groups. Except for the two-year sample where the handicapped subjects had a six month advantage in average experience, both groups of subjects tended to have had roughly equivalent amounts of integrated preschool experience.

Diagnostic Information on the Handicapped Children

The presenting diagnoses of all 41 handicapped children who were observed in Preschool B were coded using a procedure identical to that used to code this information from Preschool A. Cross-tabulations of each subject's disability codes were made for the first-year and two-year samples (see Tables 14 and 15). These data were reduced as in Preschool A by recoding them by over-all impairment. Table 16 shows the distribution of Preschool B handicapped subjects by severity of impairment. When Table 16 is compared with Table 7, it appears that the total sample of handicapped subjects observed in Preschool B (n=41) was slightly less impaired than the comparable set of subjects in Preschool A.

For example, 13% of Preschool A handicapped children were coded as exhibiting one mild handicap while 29% of all the Preschool B handicapped children were similarily designated. Conversely, 40% of Preschool A handicapped subjects were described as having one or two moderate to severe handicaps as compared to only 27% of all Preschool A handicapped subjects. The first-year sample in Preschool B also appears to exhibit less severe handicaps than Preschool A subjects with 32% of Preschool B handicapped subjects in this sample being described as having only one mild handicap. The Preschool B two-year sample contains a group of subjects who were described as the least impaired of all the other sets of handicapped subjects from both preschools. Fifty percent of the handicapped subjects in the two-year sample from Preschool B were coded as having only one mild handicap.

Therefore, it seems that the handicapped children who were observed in Preschool B were, on the average, less severely impaired than those in Preschool A. However, this apparent difference between the two groups of handicapped preschoolers should not be taken too seriously. If you recall, this severity of impairment code was originally derived from diagnostic information provided when the children entered these two preschools. The difficulties encountered in trying to use these data have been described previously. The severity of impairment code is based on a heterogeneous set of descriptive information of unknown vailidity. Also, it should be kept in mind that the data upon which this code is based were gathered on young children before they entered school. It can not reflect any changes that might have occurred in a child's health or family status or classroom functioning since he/she began school.

Procedures

Observations were made at Preschool B at four different times: the fall of 1977, the spring of 1978, the fall of 1978, and the spring of 1979. Each subject in the first-year sample was observed using the ABC-NK instrument for approximately 20 minutes four times in the fall of 1977 and four times in the spring of 1978. The mean length of observation session for the subjects in the first-year sample was 19.7 minutes (range = 18-20 minutes). 50.25% of the observations for this sample were made in structured settings.

Each subject in the two-year sample was observed using the same instrument for an average of 19.7 minutes (range = 17.5-20 minutes) four times in the fall of 1977 and for the same number of times in the spring of 1978, the fall of 1978 and the spring of 1979. 50% of the observations for the two-year sample were made in structured settings. Because these figures show very little variation in length of observed time and in observational context, it was decided that proration factors would not be used to adjust the observational data from Preschool B.

The behavior observations were transferred to coding sheets and keypunched. The data on each subject were aggregated across the four observation periods per data collection period. Only the data from variables exhibiting sufficiently high levels of inter-rater reliability were examined. (See Table 1.) Variables were aggregated by averaging each subject's scores across the four observations and also by extracting the maximum and minimum values and, for some variables, the sum. The distributions of these aggregated variables across subjects were examined and all variables with sufficient variance (at least 50% nonzero scores) and with roughly normal distributions were included in further statistical analyses. In addition, variables which exhibited bimodal or skewed distributions were recoded to dichotomous variables by splitting them at the median. These recoded variables were also included in later analyses.

The aggregated variables which exhibited either normal distributions across subjects or which could be recoded into dichotomous variables were then intercorrelated. When two variables were found to correlate highly with each other ($r > .80$), one of these two variables was dropped from further statistical analyses. Decisions as to which variable to eliminate were made on pragmatic and logical grounds. For example, variables which are more generally reported in the literature, such as averages, were kept more often than variables which are rarely examined, such as maximum values. This procedure which reduces the degree to which any two variables intercorrelate is necessary if one is to analyze data using a multivariate technique such as discriminant function. This insures that each variable input into the analysis supplies a unique piece of information about a child.

The behavior observations were supplemented with a teacher interview described in a previous section of this report. This interview was administered in June, 1979.

Results

The variables input to the discriminant function analyses for Preschool B are listed in Table 17. Separate analyses were performed on this same set of variables for each data collection period and for the two samples of subjects (first-year and two-year). Thus, six separate discriminant analyses were performed, two for the fall of 1977 and the spring of 1978, and one each for the fall of 1978 and the spring of 1979.

The means and standard deviations of the thirteen variables from the ABC-NK observation form for the two samples of subjects at each data collection period are presented in Tables 18 through 23. The results of each of the six discriminant function analyses are displayed in Tables 24 through 29. The analyses performed on these data are identical to those used on the observational data from Preschool A. You will notice that the discriminant function coefficients change in sign from one analysis to the next. Thus, sometimes the handicapped subjects received negative scores and sometimes they received positive scores. This change in sign is a statistical artifact of the procedure and does not alter the interpretation of the results.[1]

Behavior Observations of the First-year Sample (Fall 1977). The results of the discriminant function analysis for the data collected in the fall of 1977 on the 54 subjects in this sample are presented in Table 24. Six variables contributed to the handicapped side of the function. The most important variables for the handicapped subjects were unusually negative interactions, the maximum amount of distraction and watching behavior, the total amount of strange sounds and noises while alone and spending more time alone with the teacher. The last two variables, the maximum observed time spent with peers and with both peers and the teacher, were not important differentiators of the behaviors of handicapped and nonhandicapped children.

The nonhandicapped children in this sample were, on the other hand, more likely to talk to peers, to exhibit strange gestures while alone, to talk to the teacher and to spend longer average amounts of time alone. The last three variables on the nonhandicapped end of the function were not important discriminators.

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[1] Please see footnote 2 on page 16.

Therefore, in the fall of 1977, the handicapped children seemed to be involved in more fights, to spend more time covertly watching others, to be making more unusual noises and to spend more time alone with the teacher than their nonhandicapped peers. Conversely, the nonhandicapped children were spending more time talking to peers and, to a lesser extent, the teacher than the handicapped children. In addition, the nonhandicapped children tended to make strange gestures and to spend more time alone.

In summary, the handicapped subjects in this sample are showing some signs of maladaptive or inappropriate behavior in the fall of 1977. They are fighting, watching and making strange noises to a greater degree than are their nonhandicapped classmates. Perhaps because of these behaviors, they are also spending more time with the teacher. However, it is their nonhandicapped peers who do more talking with the teacher. Although the nonhandicapped children are spending more time by themselves and are more likely to exhibit strange gestures in this situation, their superior verbal skills enable them to carry on peer as well as teacher-child conversations. The variables which assess the average or maximum observed time spent with peers (MAXWCHILDREN, WCHILDREN, MAXWOTHERS) are not important contributors to this function. Thus, it may be assumed that both handicapped and nonhandicapped children spend roughly equivalent amounts of time with other children. However, the nonhandicapped children do more talking with their peers.

The discriminant function discussed above was able to correctly classify only 66.7% of the subjects in the first-year sample. Ten handicapped and eight nonhandicapped children would have been incorrectly classified on the basis of their discriminant function scores. The fact that one-third of the subjects in this sample did not conform to the picture of classroom behavior defined by this discriminant function will be discussed at greater length in the conclusion.

Behavior Observations of the First-year Sample (Spring 1978). Table 25 summarizes the results of the discriminant function analysis derived from the spring 1978 data. The two most important definers of the behavior of the handicapped children were: making strange sounds and noises and spending longer amounts of time in close physical proximity to other children. The next most important variables for handicapped children were: spending longer maximum amounts of time with others and spending more time watching others. Two more variables which were less important than the previous four but which still made some contribution to the handicapped side of the function were: engaging in negative interactions and talking to the teacher.

The nonhandicapped end of the function was defined by verbal interactions with peers, spending large maximum amounts of time with peers, spending longer average amounts of time alone and making strange gestures while with others.

Summary of Findings for the First-year Sample. At the end of the 1977-78 school year, the handicapped children in this sample were still making more strange sounds and noises, as they were in the fall, and engaging in more fights, although to a lesser extent, than their nonhandicapped classmates. They were also still covertly watching other children. However, by the spring the handicapped children were no longer spending more time alone with the teacher and were, instead, spending longer maximum amounts of time with others and longer average amounts of time with peers. The tendency for the nonhandicapped children to do more talking to peers continues from the fall into the spring. However, the handicapped children are now doing somewhat more talking to the teacher. The nonhandicapped children seem to be more variable in how they spend their time: sometimes they spend long amounts of time with peers; sometimes they spend time alone.

Thus, some behaviors which discriminated the two groups in the fall continue to do so in the spring: sounds and noises, negative interactions, and covert watching for handicapped students; verbal interactions with peers and isolation for nonhandicapped students. Some behavioral changes were observed as well. In the spring the handicapped children were more likely to be seen with other people--either their teacher or peers--and to talk to the teacher than they had been in the fall. The nonhandicapped children were more likely to vary their degree of social proximity in the spring than in the fall.

All of these changes may not reflect an increase or decrease in absolute terms of any behavior for the two groups but, instead, reflect changes in behaviors that differentiate the two groups. Thus, if handicapped children did more talking with the teacher in the spring than in the fall but this change was accompanied by a similar increase in teacher-child conversations for the nonhandicapped group of children, the relative position of this variable of teacher verbal interaction would remain constant over time. Shifts in position for certain variables over time on the discriminant function indicate changes in behavior of one group relative to the changes that occur for the other.

Eighty percent of the subjects were correctly assigned to either handicapped or nonhandicapped groups by the discriminant function outlined in Table 25 and discussed immediately above. All 11 of the subjects misclassified by this function were in the handicapped group.

Behavior Observations of the Two-year Sample (Fall 1977). The results of the discriminant function analysis for the data collected in the fall of 1977 are displayed in Table 26. Six variables fell on the handicapped end of the function. They are, in decreasing order of importance: the average percentage of time spent in verbal interaction with the teacher; the amount of strange sounds and noises produced while alone; the average percentage of time spent with children as a central group member; the maximum observed time spent with others; the maximum amount of aimless wandering; and the total number of strange gestures and movements while alone. Of these six variables, the first three are the most important indicators of how the handicapped children behaved differently from the nonhandicapped children during this time period. Thus, handicapped children were more likely to talk to the teacher, make strange sounds and noises, and to spend longer average amounts of time with other children.

The remaining seven variables by default fell on the nonhandicapped side of the function. The most important differentiator of nonhandicapped behavior was the average percentage of time they spent engaged in positive or neutral verbal interactions with peers. The next three variables were also important definers of the nonhandicapped function: the maximum observed time spent as a central peer group participant; participation in usually negative interactions; and the maximum time spent covertly watching others.

Spending time isolated from others and alone with the teacher were also characteristic of nonhandicapped children but to a much lesser extent. The final variable, strange gestures in the company of others, was not an important discriminator between the two groups.

On the basis of these results, it appears that both handicapped and nonhandicapped children in this sample are actively involved in the social structure of their classrooms. The handicapped children are spending, on the average, more time in physical proximity with other children although the nonhandicapped children are above the median in the maximum time they spent in the same social situation. Thus, it appears that the nonhandicapped children may be more variable in the way they spend their time. Sometimes they spend a lot of time with peers, sometimes, although to a lesser extent, they are alone or with the teacher. The handicapped children are talking with the teacher more while the nonhandicapped children are more talkative with peers. Both groups exhibit some kinds of strange or antisocial behaviors. The handicapped children are more likely than their nonhandicapped classmates to make strange sounds and noises. Nonhandicapped children, on the other hand, show a greater tendency to engage in fights and to covertly watch others.

Behavior Observations of the Two-year Sample (Spring 1978). When the same children were observed the following spring (see Table 27), some changes in their behaviors were seen. The handicapped children were most unlike their nonhandicapped peers in the maximum time they spent covertly watching others, their production of strange sounds and noises, the average amount of time they spent in physical proximity with other children and in their tendency to engage in negative interactions. Two of these variables, strange sounds and longer average amounts of time spent with peers, had been important definers of the handicapped end of the function in the fall of 1977. However, the two other variables, watching and negative interactions, had been important components of the nonhandicapped side of the fall function.

The above finding may indicate that the handicapped children show some behaviors, like making strange sounds, which differentiate them from their nonhandicapped peers throughout the school year. However, the handicapped children may learn some behaviors during the school year, such as negative interactions and watching others, from their nonhandicapped classmates. The fact that covert watching increases dramatically in importance for these handicapped children over the course of the school year lends support to the hypothesis that some of their behavior change may be due to their imitation of peers. Notice that this covert watching occurs even though the handicapped children spend more time, on the average, in the presence of other children and the teacher. Thus, the watching of others is not due to social isolation. This behavioral change appears to be accompanied by the increase in negative interactions. Whether prosocial interactions (comforting, helping, etc.) increase as well was not assessed by these data.[1] A finer-grained analysis of positive interactions (play behavior, etc.) might show that covert watching accompanies these behaviors as well.

The nonhandicapped children in the spring of 1978 tended to be above the median in the maximum amount of time they were observed in physical proximity with peers. They also spent a greater amount of time in isolation and in verbal interaction with peers than the handicapped subjects. Therefore, again in the spring, the nonhandicapped children tended to show more variability than their handicapped peers in how they spent their time: either for long periods with peers and, sometimes, the teacher or alone. Also, the greater amount of peer verbal interaction involving nonhandicapped subjects was true in the spring as well as in the fall.

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[1] Unusually positive interactions occurred too infrequently for an adequate assessment of inter-rater reliability to be made.

Behavior Observations of the Two-year Sample (Fall 1978). By the fall of 1978 (see Table 28), the handicapped children were spending more time on the average with other children than their nonhandicapped classmates. In addition, the handicapped children tended to exhibit strange movements and gestures while alone. These two variables were the major definers of the handicapped end of the function. However, the handicapped subjects also tended to make more strange sounds and noises while alone and to engage more frequently in verbal interactions with the teacher.

The remaining nine variables show relatively strong loadings in the nonhandicapped end of the continuum. The most important of these were: the average percentage of time spent isolated, the amount of verbal interactions with peers, being above the median in the maximum amount of time spent in the company of peers and being above the median in the maximum time spent with both peers and the teacher.

Once again it appears that both handicapped and nonhandicapped children are actively involved in some aspects of the social life of the classroom. Handicapped children, though still low on verbal interaction with peers, show higher average amounts of time with other children. The nonhandicapped children on the other hand, are more variable in how they divide up their time: sometimes spending large amounts of time in social groups; sometimes spending time alone. Despite the variability in physical proximity that nonhandicapped children exhibit, they seem to keep in contact with their peers through verbal channels.

In the fall of 1978, both groups of children show some signs of inappropriate, maladaptive or antisocial behaviors. The handicapped children are more likely to make strange sounds, noises, movements and gestures when alone while the nonhandicapped children occasionally watch others covertly, wander aimlessly around the classroom and engage in fights or arguments.

It is interesting to note that the previous fall these same children showed a somewhat similar pattern of maladaptive behaviors. In the fall of 1977, the nonhandicapped children did more covert observing of others and engaged in more negative interactions than their handicapped peers. These two behaviors became more typical of the handicapped children by the following spring (1978). The tendency of handicapped children to display strange sounds and noises while alone is a constant factor in their behavior from the fall of 1977 through the fall of 1978.

Behavior Observations of the Two-year Sample (Spring 1979). Finally, the behaviors that differentiate these two groups during the spring of 1979 are shown in Table 29. The three most important contributors to the handicapped end of the discriminant function are: the amount of strange gestures and movements exhibited both alone and with others and the percentage of time spent talking to the teacher. Two variables which make additional, although smaller, contributions to the handicapped function are: being above the median on the maximum amount of time spent with others and sometimes engaging in unusually negative interactions.

The nonhandicapped children are more likely than their handicapped peers to spend large amounts of time alone with the teacher, to make strange sounds and noises when alone, to sometimes spend a large amount of time aimlessly wandering around the classroom, to spend more time, on the average, in the company of peers and to talk to peers.

Two variables which had been repeatedly associated with the handicapped students since the first observation period, strange sounds and noises and spending, on the average, larger amounts of time with peers, suddenly appear on the nonhandicapped end of the continuum. However, since the maximum amount of time spent with others (MAXOTHERS) now appears on the handicapped end of the function, it seems that both groups are still socially engaged, as they have seemed to be all along. The fact that verbal interaction with peers has dropped in importance for defining the behaviors of nonhandicapped children may mean that the handicapped children are showing an increasing ability to engage in verbal interaction with their peers.

Summary of Findings for the Two-year Sample. When one looks at these four discriminant functions for this sample, some general patterns of variable loadings emerge. One finding is clear: neither group as a whole showed evidence of social isolation at any of the times they were observed. However, the kinds of social interactions in which they were engaged appear to differ somewhat.

The handicapped children had a greater tendency to spend larger average amounts of time in close physical proximity with other children. That is, they were never found spending more time than the nonhandicapped children in the exclusive company of the teacher and were unlikely to spend more time alone than the nonhandicapped children. Despite their physical proximity to other children, the handicapped children still do most of their talking with the teacher. Verbal interaction with the teacher discriminates between the two groups especially well in the fall of 1977 and the spring of 1979.

On the other hand, the nonhandicapped children tend to be more variable in how they spend their time. Three variables, spending time alone with the teacher, spending time in isolation and spending long periods of time with other children, tend to appear with varying degrees of importance on their end of the continuum until the spring of 1979. At that time, spending time alone with the teacher remains important for nonhandicapped children. However, spending very long time periods with peers becomes important for handicapped children while spending longer average amounts of time with peers appears on the nonhandicapped end of the function. Isolation loses its discriminating power by the spring of 1979.

This pattern of results seems to indicate that sometimes the nonhandicapped children spend a lot of time with peers, sometimes they are alone, sometimes they spend a lot of time with the teacher. Spending time alone decreases in importance as a discriminating variable over the course of the two school years. Spending time alone with the teacher only emerges as an important discriminator of nonhandicapped behavior in the spring of 1979. During the other time periods, spending time with the teacher by itself is not an important contributor to the discriminant function. Despite the varying ways they spend their day, the nonhandicapped children consistently engage in more verbal interaction with peers throughout the two school years.

The predominant inappropriate behaviors exhibited by the handicapped children throughout the two school years are: strange sounds and noises while alone (except in the spring of 1979) and strange gestures and movements while alone. The second set of behaviors increases in importance with time. One variable, aimless wandering, does not appear to be an important discriminator until the second year of observations when it exhibits a moderate amount of influence on the nonhandicapped end of the function.

The likelihood of engaging in fights or arguments is sometimes greater for the handicapped children and sometimes for the nonhandicapped children. Interestingly enough, the nonhandicapped children show a greater tendency for negative interactions during the fall of the school year, while the handicapped children appear to be more likely to quarrel during the spring. Whether or not the shift is due to a decrease in inhibitions on the part of the handicapped students over the course of each school year accompanied by a corresponding increase in prosocial behavior or inhibition of negative behavior in their nonhandicapped peers can not be determined by these data. Perhaps the handicapped children are modeling the negative behaviors of their nonhandicapped peers which, in turn, affects the behaviors of the nonhandicapped children. Unfortunately, the reciprocal effects of integrated preschool experience on children's social behavior can only be suggested, not explained, by these data.

Another variable, covertly watching others, shows a similar pattern of flipping from one side of the function to the other over time. This may indicate that observational learning of many behaviors including some antisocial ones may be occurring. Unfortunately, no reliable measure of prosocial behavior was used in this study so the effect of exposure to an integrated preschool on prosocial behavior can not be explored.

The discriminant function analyses were also used to compute function scores for each subject in the two-year sample at each of the four time periods. From these scores, the most likely group membership of each subject was obtained. Using this technique, 82% of the subjects would be correctly assigned to their group (either handicapped or nonhandicapped) in the fall of 1977; 89% in the spring of 1978; 96% in the fall of 1978; and 79% in the spring of 1979.

A total of five handicapped children would have been misclassified on the basis of their discriminant function scores at least once between the fall of 1977 and the spring of 1979. Four of these five children would have been misclassified at only one observation period and one child would have been misclassified twice. The teacher and observer interviews of these five children were then examined to see if any commonalities across these children could be identified. In addition, their presenting diagnoses were identified.

Two of these five misclassified handicapped children exhibited only minor speech difficulties when they entered the preschool. Both of them continue to have some difficulties communicating verbally because of articulation problems or a limited expressive vocabulary. However, these two children seem to show few other behavioral problems and were rated by the teacher and observer as somewhat more likable, and attractive and much less aggressive than other children.

One of the five misclassified handicapped children was described as exhibiting a delay in speech and language skills and as showing signs of possible retardation before entering Preschool B. She is still seen by both the teacher and observer as showing some signs of retardation and experiencing some difficulties communicating verbally due to a limited expressive vocabulary. However, she is also described by them as being much less aggressive than other children and an active participant in all classroom activities. In addition, she receives a good deal of help and companionship from one of her classmates.

The remaining two misclassified handicapped children, one of whom was incorrectly assigned twice, do not look handicapped, according to the teacher and observer. These final two children are able to participate in all classroom activities and communicate well both verbally and nonverbally. One of these two children was diagnosed as exhibiting episodes of unusual behaviors (screaming, spitting, etc.) before he entered the preschool but neither the teacher nor the observer felt that these behaviors have continued. The final misclassified child had been diagnosed as hyperactive but is now on medication and appears, to the teacher, to exhibit more control over his behavior.

The misclassified subjects in the Preschool B two-year sample all appear to exhibit mild handicaps (or none at all) and seem to compensate for their difficulties by being unaggressive and/or attractive or likeable. These five subjects which make up almost half of the total sample of twelve handicapped children in the two-year sample were all coded as exhibiting either one or two mild handicaps when enrolled in Preschool B. Thus, they appear to be less handicapped than most of the other handicapped children in their sample.

A Comparison of the Behavior Observations and Teacher Ratings. As a further check on the validity of the results from the discriminant function analyses, we decided to compare the discriminant function scores with information obtained from interviewing teachers about the children's behavior and appearance. The teacher interview, described previously, was only administered once, in June, 1979. Time limitations did not permit us to pilot test this instrument before it was used. As you can see from Table 4, some questions were answered infrequently by both the teacher interviewed and a second rater who was used to get an estimate of reliability. Other questions did not evoke similar responses in the two raters. Despite these limitations, we decided to do a few statistical comparisons between some of the teacher's ratings and the discriminant function scores for four groups of Preschool B children.[1] These analyses should, however, be interpreted with caution due to the fact that this interview form was not adequately tested before it was used.

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[1] These four groups were: the entire first-year sample; the handicapped children in the first-year sample; the entire two-year sample; the handicapped children in the two-year sample.

A multiple regression analysis was used to predict the spring 1978 discriminant function score of each child in the first-year sample from his/her fall 1977 discriminant function score and four questions from the teacher interview. The four questions examined were ratings of each child's degree of attractiveness, aggressiveness, likeability and verbal communication skills. The results of the regression analysis are displayed in Table 30. As you can see, 38% of the variance (multiple R^2) in the spring 1978 discriminant function score could be predicted from the fall 1977 discriminant function score and the four teacher interview questions.

The best predictors of a high and positive spring 1978 discriminant function score (which was the nonhandicapped end of the function) were in decreasing order of importance: being seen as more attractive than other children; exhibiting some degree of aggressiveness; having no trouble communicating verbally; receiving a nonhandicapped score on the fall 1977 discriminant function; and being less likeable than other children. The last variable, being less likeable than others, was not a very good predictor of spring 1978 behavior since its beta weight is very small (-.09) and it contributed less than 1% of the total explained variance.

It is interesting that teachers' judgements of a child's attractiveness, aggressiveness and ability to communicate verbally were better predictors of his/her spring behavior than his/her standing on the fall discriminant function. This finding is even more striking when one considers the fact that the teacher ratings were all made in June of 1979--one year after the spring 1978 observational data were collected. Thus, it seems that certain fairly stable appearance and personality characteristics, such as attractiveness or aggressiveness, and verbal ability exert a relatively constant influence on a child's classroom standing as estimated by his/her discriminant function score.

A second multiple regression analysis was performed using only the handicapped subjects in the first-year sample. This analysis examined the extent to which teacher ratings, diagnostic information and a child's discriminant function score in the fall of 1977 could predict his/her discriminant function score in the spring of 1978. The results of this analysis are presented in Table 31. The seven predictive variables input to the regression analysis were able to explain 29% of the total variance in the spring discriminant function scores for the handicapped group (multiple $R^2 = .29$).

The variable with the highest beta weight and, thus, the most important predictor of a child's spring 1978 behavior was physical attractiveness. Children judged to be low in physical attractiveness were most likely to receive spring discriminant function scores in the handicapped range. The remaining predictive variables were (listed in decreasing order of importance): exhibiting much less aggressiveness than other children; being able to participate fully in most classroom activities; receiving a fall discriminant function score in the handicapped end of the continuum; exhibiting a handicapped appearance; being diagnosed as mildly (but not moderately or severel handicapped; and being less likeable than most children. These variables were all associated with receiving a handicapped discriminant function score in the spring of 1978.

Some of these predictive variables make intuitive sense, others do not. For example, it is not clear why handicapped children who have little or no trouble participating in classroom activities (fine motor, gross motor, fantasy play, or group meetings) should be more likely to receive discriminant function scores most unlike those of nonhandicapped children. This assessment of a child's ability to function in the classroom was obtained from summing up a teacher's judgements of a child's ability to participate in a variety of activities and then recoding the high scores to 1 and the low scores to 0. This classroom participation variable correlated negatively (r = -.11) with the spring discriminant function score by itself, but received a positive beta weight when combined with the other independent variables. I would caution the reader not to focus on one variable in any multivariate analysis, especially one derived from a pilot instrument as the teacher interview, but to look at patterns of results across variables and across analyses. Therefore, it appears that a number of variables derived from a teacher's judgements of a child's appearance, functioning and personality; his/her previous behavior; and some knowledge of her/his disability help one predict his/her behavior at another period in time. However, the predictive power is only moderate (explaining about 30-40% of the variance in the previous two analyses).

The regression analyses reported above do show that teachers' ratings of their students have some ability to predict a child's classroom behavior as systematically observed by another adult. However, the teachers were interviewed in June of 1979, one year after the behaviors contributing to the spring 1978 discriminant function were observed. Some of these children remained in the school for an additional year. These children who remained formed the two-year sample. Some of them may have behaved differently during the second year of this study, and, thus, the teachers' ratings of their behavior should reflect this change. Unfortunately, we did not interview the teachers in the spring of 1978. Therefore, it is not surprising that teachers' judgements of children in 1979 relate, but only to a moderate degree, to the behavior of these children in 1978. The ability of teachers' judgements in 1979 to predict children's behavior in 1979 is examined below for the two-year sample.

A multiple regression analysis was used to predict the spring 1979 discriminant function score of each child in the two-year sample from his/her three previous discriminant function scores and three questions from the teacher interview. The three teacher interview questions concerned a child's attractiveness, likeability and degree of aggressiveness. The results of this analysis are displayed in Table 32. Only four of the independent variables input to this analysis were included in the summary table since the remaining two, both of which were discriminant function scores from the 1977-78 school year, did not contribute enough additional explanatory power to be included.

The four variables that were included were able to explain 55% of the variance in the spring discriminant function scores of this sample (multiple $R^2 = .55$). These four variables were, in order of decreasing importance: the discriminant function score from the previous fall, attractiveness; aggressiveness; and likeability; Thus, children who looked most unlike the nonhandicapped children in the spring of 1979 also looked most unlike the nonhandicapped children in the fall of 1979. These handicapped children were judged to be less attractive than other children, somewhat more aggressive and more likeable. The most important predictor of a child's spring discriminant function score was his/her fall discriminant function score. The simple correlation between these two function scores was .64.

Finally, a fourth multiple regression analysis was performed using only the handicapped subjects in the two-year sample. The results of this analysis are presented in Table 33. The six independent variables used in this analysis were able to account for 77% (multiple $R^2 = .77$) of the total variance in the spring 1979 discriminant function scores for these handicapped subjects.

If one wanted to predict that a child would look most unlike his nonhandicapped classmates in the spring of 1979, the variables to look at, in decreasing order of importance, would be: looking somewhat handicapped; acting more like the nonhandicapped children in the spring of 1978; acting more like the nonhandicapped children in the fall of 1977; acting more like the handicapped children in the fall of 1978; definitely looking handicapped; and experiencing difficulties participating in classroom activities. Unfortunately, this collection of variables is difficult to interpret. Even though the six variables listed above account for a high degree of the variance in the spring 1979 discriminant function scores for the handicapped group, it is clear that the interrelationships between these variables is complex.

It appears that children who look most unlike their nonhandicapped peers in the spring of 1979 did not exhibit such extreme behavior during the previous year. The simple correlation between the fall 1977 and the spring 1979 discriminant function scores for handicapped subjects was low and negative ($r = -.20$) even though the handicapped end of the function was positive in sign for both of these time periods. The simple correlation between the spring 1978 and the spring 1979 discriminant function scores was virtually zero for the handicapped children ($r = .08$). Thus, the handicapped subjects in the two-year sample seem to hold relatively unstable positions on the discriminant function from the first year to the second.

One problem with this regression analysis is that only eleven handicapped subjects (out of a total of twelve in the sample) had complete data on all the independent variables. Therefore, the ratio of variables to subjects may be too high to achieve very reliable results. Unfortunately, the subjects on whom we have the most data are few in number and are probably not representative of the rest of the observed sample or of the entire school population.

The Children's Adaptation to School.

A second series of analyses was concerned with examining the adaptation of the children in both groups to the nursery school during the two year period. Each of the behavioral variables was analyzed in a repeated measures analysis of variance for the handicapped and nonhandicapped children separately.

Independent Variables.

The same dependent variables used in the discriminant analyses for this sample were used in the present analyses. Because we wished to detect changes in behaviors across time, variables recoded as dichotomous in the discriminant function were left as continuous. While this resulted in unequal variances, the analysis of variance is robust to the violation of this assumption.

Data Analysis.

Observed behaviors were analyzed together in multivariate repeated measures analysis of variance (MANOVA) and separately in univariate repeated measures analyses of variance (ANOVA). In both cases the between subjects effect (GROUP) had two levels (handicapped and nonhandicapped) and was tested by the variance accounted for by children within groups, while the within subject effects (TIME) had four levels (fall 1977, spring 1978, fall 1978 and spring 1979) and (TIME by GROUP) were tested by the variance accounted for by time across children within groups (Winer, 1971). Effects were calculated using the GLM procedure of the Statistical Analysis System; Version 1979 (SAS Institutes, 1979). Differences between observations were assessed by Duncan's Multiple Range Test with alpha set at the .05 level. Means of each variable by group and time were graphed to aid interpretation.

Results.

The repeated measures MANOVA for all variables indicated that handicapped and nonhandicapped children were not significantly different in their observed behaviors for all observation periods, F (13,14) = 1.33, p 0.3028. Behaviors for all children were different at different observation periods, (F (39,194) = 6.19, p 0.0001) supporting the findings of the discriminant analyses. Further, handicapped and nonhandicapped children did not change their behaviors differently over time; (interaction effect, nonsignificant F (39,194) = 0.70, p 0.91. These results suggest that children's behavior over time does change but that across time the patterns of the changes evident for handicapped and nonhandicapped children do not differ. These results can be further understood by examining the results of the ANOVA's calculated for each behavioral variable.

1. The repeated measures ANOVA for the mean amount of time children spent with other children revealed the incidence of this behavior changed over time F (3,78) = 3.32, $p < .0237$, and that the behavior of the children in the handicapped and nonhandicapped groups differed F (1,26) = 4.02, $p < .0056$. Figure 1 indicates that over the four observation periods all the children spent more time on the average with other children. Nonhandicapped children spent more time, with their peers on average, than handicapped children. The mean amount of time the handicapped children spent with their peers increased over the period of two years, but the differences were not significant because there was considerable variation among the handicapped students in this behavior. These children showed a decrement in time spent with peers after the interviewing summer break and considerable increments from fall to spring of each year.

2. The maximum amount of time children spent with other children changed over time, (F (3,78)=13.55, $p < 0.0001$), and the groups significantly differed on this behavior F (1,26)=6.81, $p < 0.0149$. Inspection of Figure 2 illustrates that non-handicapped children spent longer amounts of time with their peers than did handicapped children. Handicapped and nonhandicapped

children spent significantly less time with their peers in the first observation period (Fall, 1977) than in any of the other periods, which do significantly differ from each other. The major increment appears to occur within the first year, and this increase is maintained during the second year. Notice, however, a slight decrease was apparent for both groups of children in the observation period following the summer break. This change is not significant but again is consistent with the change over the same period noted above.

3. The maximum amount of time children spent with all others (children and adults) also changed over time ($F\ (3,78)=13.13$, $p < 0.0001$), and differed for the two groups of children, ($F\ (1,26)=5.26$, $p < 0.0301$). Inspection of Figure 3 indicates that nonhandicapped children spent a longer proportion of each observation period with other persons than do handicapped children, and that both groups spent proportionally less time with others in fall, 1977 (Time 1) than in the subsequent observation periods, which do not significantly differ from each other.

4. The percent of time children verbally interacted with other children differed over time ($F\ (3,78)=5.33$, $p < 0.0023$, and for the two groups ($F\ (1,26)=10.94$, $p < 0.0028$). Figure 4 indicates that nonhandicapped children spent a higher percentage of their time verbally interacting with other children and this percentage does not change over time for this group. Handicapped children spent a significantly smaller percentage of their time verbally interacting with peers

in fall 1977 than they did in spring 1978 or spring 1979. The difference between fall 1977 and fall 1978 was not significantly different suggesting the time away from peers during the summer break negatively affected handicapped children's proclivity to verbally interact with their peers, which was not evident for nonhandicapped children.

5. The mean amount of time handicapped and non-handicapped children spent with their teacher did not differ for the two groups F (1,26)=0.93, $p < 0.3443$. There was a trend for both groups to spend less time with their teacher over the two years and this decrease was more dramatic for the handicapped children (see Figure 5) F (3,78)=2.19, $p < 0.0942$.

6. The percent of time children verbally interacted with their teacher was significantly different over time, F (3,78)= 22.36, $p < 0.0001$, but was not significantly different for the two groups. Figure 6 indicates that handicapped and nonhandicapped children spent a higher percentage of time verbally interacting with their teacher in fall 1977 than any other time. The mean amount of time both groups of children spent with their teacher decreased steadily over the two years, as did the percentage of time children spent verbally interacting with their teacher.

7. The mean amount of time children spent isolated from others changed over time, F (3,78)=4.06, $p < 0.0099$, and was not significantly different for handicapped and nonhandicapped children, F (1,26)=0.60, $p < 0.4461$. Figure 7 indicates the

children in both groups spent significantly less time isolated during their two years in the mainstreamed preschool, with the handicapped children exhibiting somewhat more isolated behavior during the first year.

8. The maximum number of distractable and covertly observing behaviors children exhibited while alone significantly lessened over time, (*F* (3,78)=4.41, $p < 0.0066$, for both handicapped and nonhandicapped children, (*F* (1.26)=.27, $p < 0.6093$), n.S. Figure 8 indicates the maximum observed frequency of these behaviors significantly declines after the first school year, when the handicapped children exhibited more such behaviors.

9. The maximum observed wandering behaviors while alone decreased over time, (*F* (3,78)=20.92, $p < 0.0001$), and in a parallel fashion for both groups, (*F* (1,26)=0.48, $p < 0.4943$), throughout the two school years (see Figure 9).

10. The mean number of unusual gestures and movements exhibited in the presense of others descreased over time (*F* (3,78)= 10.12, $p < 0.0001$), for both groups. Figure 10 indicates these behaviors decreased dramatically during Year 1 for both groups but handicapped children showed an increased incedence after the summer break during the fall observation in Year 2, which diminished by spring.

11. The unusual gestures and movements that children exhibit while alone also decreased over time (*F* (3,78)=3.81, $p < 0.0132$), and in a parallel fashion for the two groups. Unlike gestures and movements exhibited when with others, however, Figure 11 indicates these behaviors decreased more slowly, and particularly so for the handicapped students.

12. The sound and noises children make while alone decreased over time, (F (3,78)=4.33, $p < 0.0072$), and in a parallel fashion for both groups (see Figure 12), with the handicapped students displaying a slightly higher mean incidence of these behaviors.

13. The mean number of unusually negative behaviors exhibited did not differ actoss observation times, (F (3,78) = 1.74, $p < 0.01649$, or for handicapped and nonhandicapped children (F (1,26) = 0.02, $p < 0.8985$). While the nonhandicapped children exhibited a fewer such behaviors in Year 1, they produced a slightly higher number of such behaviors during Year 2. However, these were very low incidence behaviors. Notice the small increase in these behaviors among handicapped children in the observation period following the summer break suggesting again the negative effect of summer vacation on handicapped children's behavior.

Chapter 4

Discussion

Despite the negative attitudes towards handicapped children that repeatedly appear in the research literature (see Volume I of this report), systematic observations done in two mainstreamed preschools over a period of one to two years revealed many consistent behavioral differences between the handicapped and nonhandicapped children during the initial period of schooling. These diminish during a period of two years. Differences in behavior reflected organizational features of the classrooms and the school to some extent. Although various types of unusual and antisocial behaviors were recorded in this study, only one such behavior making strange sounds and noises while alone, was consistently associated with handicapped children. Even this behavior contributed markedly less variance by the third observation (Fall, Year 2) and did not appear as a discriminating variable by the fourth observation (Spring, Year 2).

The examination of the observed behaviors over time revealed that considerable socialization was occurring among the handicapped preschool children. The frequency of occurrence of the behaviors hypothesized to be inappropriate diminished dramatically by the close of the first year, and in many instances, approximated the frequency of these behaviors expressed by the nonhandicapped peers. The major exceptions were the behaviors associated with the social and verbal interactions with agemates. The nonhandicapped children socialized more readily but in the broadest sense of the term. That is, they spent more time, on the average, with classmates but also more time by themselves and more time with teachers by the close of the two year period. One could impute a considerable sense of independence in how these children chose to allocate time to their different interests.

The finding of fewer differenced in the behaviors exhibited by handicapped and nonhandicapped children by the close of the two year period of observation, indicates the handicapped children are inhibiting socially inappropriate behaviors. They may still be struggling to integrate this new stance into a more comfortable control over their social behaviors. This is suggested by the dramatic decrease in the adverse behaviors selected for observation in this study without an equally dramatic increase in the few prosocial behaviors we examined. However, this process may be expected since learning how to interact constructively and comfortably with peers and teachers is complex, and requires some considerable period of time to integrate into one's behavior.

It is important to point out that many of the "inappropriate" behaviors selected to typify the handicapped children's behavior were as likely to be exhibited by the nonhandicapped preschoolers (strange gestures, fighting, inappropriate use of materials) by the latter stages of this observation study. While the use of these behaviors may be interpreted within a different context for the two groups of children, their very occurrence suggests that teachers and professionals must exercise caution in rendering value judgments regarding children's social (in)competence when viewing these behaviors in short term observations.

The evidence from the two year longitudinal study suggests strongly the mainstreaming classroom does help handicapped children in segregared placements might clarify further the effects on social behavior of the mainstreamed classroom.

Consistent Differences Between Handicapped and Nonhandicapped Children

When one reviews the discriminant function analyses from the two preschools, a limited set of variables consistently differentiate the bahavior of handicapped and nonhandicapped children. Only one behavior, unusual sounds and noises while alone, regularly falls on the handicapped side of the function and this diminishes in importance, and is found on the nonhandicapped end of the discriminant function in the Preschool B[1]. Only one behavior, the percentage of time spent in verbal interaction with peers, always falls on the nonhandicapped side of the function. The only other consistent difference between the two groups had to do with teacher involvement. Teachers spent more time alone with handicapped students in Preschool A and more time talking to handicapped students in Preschool B. Handicapped students then, spent more time with teachers in both preschools but in Preschool A the interactions involved higher physical proximity with the teacher while in Preschool B they involved more teacher-child conversations.

Consistent Behavioral Patterns

Two pairs of behaviors did not uniformly fall on either side of the handicapped to nonhandicapped continuum but were always found together on the same side of the function were covert watching and negative interactions, and isolation and spending time with other children. In other words, if one group of children spent more time covertly watching others, they also engaged in more negative interactions (fights, teasing, etc.). Also, the group of children who spent a larger average amount of time by themselves were also seen spending longer average or maximum amounts of time with peers. This pattern of findings might be coincidental or it may indicate behavioral clusters which operate in the same way for both groups of children. Spending time alone in these classrooms may be indicative of a flexible division of time between social and solitary activities instead of a sign that children were being ostracized, or had difficulties relating to other children. Likewise, covert observations of others may not be isolated, maladaptive behavior only displayed by some disadvantaged group of children. Instead, it may be a very useful behavior for children who are temporarily experiencing an increase in classroom conflicts, i.e., a kind of social inhibition imposed by the child. Concurrently, it may be a presursor to more active social involvement with other children but it may be the child does not have the behavioral controls and the resulting behavior exhibits the negative features.

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[1] The only exception to this finding was for the first-year sample of Preschool B in the fall of 1977 when the handicapped students spent more time with the teacher and less time talking to her/him than the nonhandicappes students.

One final consistent behavioral pattern was found in both preschools. Handicapped children did not display more strange gestures than nonhandicapped children. Various types of unusual facial and body gestures were systematically observed in both schools. During each observation period, at least one type of gesture would appear on both sides of the discriminant function.

Therefore, strange gestures and movements do not appear to differentiate the behavior of handicapped and nonhandicapped children in these two schools.

Consistent Differences Between Handicapped and Nonhandicapped Children in Preschool A

If one looks for uniform patterns of behaviors within Preschool A, one finds that the handicapped children spend more time alone with the teacher, engage in more negative interactions and produce more strange sounds and noises than their nonhandicapped classmates. Conversely, the nonhandicapped children spend more time talking to peers and using materials inappropriately. These behavioral tendencies were found at both observation periods in Preschool A. The changes that seem to occur in the behaviors of children in both groups have been discussed previously but will be reviewed here.

There is some evidence that the handicapped children move from a position of relative isolation from peers which is characterized by fighting, aimless wandering, watching and spending time alone with the teacher in the winter to a less isolated position in the spring. By the spring, the handicapped children are spending their time in more varied ways: sometimes with the teacher, sometimes with peers, sometimes alone. They are still fighting and making strange noises when alone but are not doing as much watcying or wandering. The nonhandicapped children talk to peers more during both the winter and spring and more often use materials inappropriately at both times. By the spring, however, the nonhandicapped children are experiencing more teacher intervention and redirection of their work.

Consistent Differences Between Handicapped and Nonhandicapped Children In Preschool B

When one turns to the findings from Preschool B, one finds the following consistent patterns across time and both samples (the first-year and two-year samples). The handicapped end of the discriminant functions tends to show a high level of verbal interaction with the teacher, more strange sounds and noises, and large average proportions of time in close physical proximity with other children. The nonhandicapped end of the continuum usually contains: verbal interaction with peers and both higher average proportions of time spent alone and higher maximum amounts of time spent with other children and/or the teacher. Thus, the handicapped children are consistently found in the company of peers but they do their talking with the teacher. The nonhandicapped children show more variability in how they spend their time: occasionally alone, occasionally alone with the teacher and sometimes with other children. However, once again, the handicapped children repeatedly make more strange sounds and noises while alone and the nonhandicapped children engage in greater amounts of verbal interaction with peers.

When one compares the findings from the two Preschool B samples, a troublesome inconsistency appears in the data from the fall of 1977 (see Tables 24 and 26). The variables which define the handicapped end of the continuum for the function derived from the first-year and the second-year sample are very different. This difference is particularly striking since 50% of the first-year sample subjects make up the two-year sample. Only two variables are common to the handicapped end of both functions: making strange sounds and noises and spending large average amounts of time with other children. The fall 1977 discriminant function for the first-year sample correctly classified only 67% of the subjects in the sample, while the fall 1977 discriminant function for the two-year sample correctly classified 82% of the subjects. These discrepant findings illustrate that these functions can change dramatically if the subject pool changes.

When the two spring 1978 discriminant functions are compared (see Tables 25 and 27), the variables which fall on the handicapped side of the continuum are quite similar although they appear in a slightly different order. In fact, the two variables which were not important contributors to the functions provide the only inconsistent loadings in the two functions. This consistency in findings between these two analyses done on overlapping sets of data collected at the same time makes one more confident of the stability of this set of results.

Systematic and Unsystematic Changes in Behaviors in the Two-year Sample from Preschool B

Some variables appeared on different ends of the continuum in regular or irregular patterns over the four time periods for the two-year sample. Making strange gestures while in the company of others was sometimes on the handicapped end and sometimes on the nonhandicapped end. Spending time aimlessly wandering around the classroom begins on the handicapped side of the function in the fall of 1977 and gradually moves to the nonhandicapped side in the second year (78-79). Covert watching and negative interactions seem to switch sides of the function together from one time period to the next. Watching and negative interactions appear on the nonhandicapped side of the function in the fall of both years and on the handicapped end of the function in the spring of both years.

Summary of Consistent Findings

In summary, the ABC-NK and NK observation instruments were able to detect differences between the behaviors of handicapped and nonhandicapped subjects. Some of these behavioral differences remained over repeated observations and across preschools. The most consistently reliable differences between the behaviors of handicapped and nonhandicapped children were the production of strange sounds and noises while alone by the handicapped subjects and the higher amount of verbal interaction with peers by the nonhandicapped subjects. In addition, the handicapped children tended to show a consistently greater amount of interaction with the teacher which took different forms in the two preschools. In Preschool A, the handicapped children tended to spend more time in the exclusive company of the teacher while in Preschool B, the handicapped children were more likely to do a lot of talking with the teacher.

It is also interesting to note that many behaviors usually associated with social isolation or behaviors identified as bizarre did not consistently characterize the interactions of either group. The handicapped children did not seem to spend more time alone than their nonhandicapped peers. In fact, spending time alone was usually associated with spending long amounts of time with other children. Thus, it appears that no group of children in these schools found itself invariably excluded from the society of others. Likewise, covert watching of others seemed to be associated with a greater tendency to engage in fights or other negative interactions. However, neither of these disturbing behaviors was consistently associated with handicapped children. Aimless wandering around the classroom and the production of various sorts of strange gestures and movements were as likely to be associated with nonhandicapped children as they were to be seen among the handicapped group.

Implications for Future Research

The ABC-NK and NK instruments were specifically designed to highlight as many potential differences between the behaviors of handicapped and nonhandicapped children as could be observed. Therefore, they focused on the systematic recording of bizarre and anti-social behaviors as well as socially appropriate interactions. The discriminant function analysis is a multivariate statistical tool for maximizing differences between groups of subjects. The fact that few consistent differences could be found between the behaviors of handicapped and nonhandicapped preschoolers is especially surprising given the instruments and analyses used in this study. The only distinguishing unusual behavior that handicapped children repeatedly displayed was strange sounds and noises while alone. Handicapped children tended to receive more teacher attention through either verbal or nonverbal channels, while nonhandicapped children were consistently higher in verbal interaction with peers.

This study was able to demonstrate some of the strengths and weaknesses of the instruments used and observational research in general. The ABC-NK and NK observational forms were able to provide a good deal of information on children's strange and anti-social behaviors. Unfortunately, information could not be gathered on all variables of interest due to their relatively rare occurrence. Observational techniques have difficulty reliably measuring important but rare events given the usual constraints on time and money. Low incidence and/or subtle events may be more adequately assessed by other means such as teacher reports. Some of the information gathered from the teacher interviews suggests that an instrument of this type may be an important supplement to systematic observations.

Some of the multiple regression analyses performed on the teacher interview data indicated that teachers' assessments of children's appearance and personality were sometimes more predictive of their behavior than were previous behavioral assessments. Unfortunately, the teacher interview that was used here needs to be improved and expanded before its value can be adequately judged. For example, many questions were too infrequently answered to be used. Why they were not answered was not investigated. Repeated administrations of the teacher interview to correspond with the repeated observations of the children would have helped identify and explain changes that seemed to occur in the behavior of one child or of an entire group.

In addition, the ABC-NK and NK, in their present form, did not provide enough information on children's adaptive social and nonsocial behaviors. For example, these instruments did not assess children's appropriate use of materials or a broad range of their prosocial interactions.[2] A finer-grained analysis of the content and sequence of children's interactions with both people and materials is needed in order to understand some of the behavioral patterns that appeared in these data.

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[2] Only information on unusually positive interactions (hugs, comforts, etc.) was gathered. Unfortunately, these interactions were too infrequent to include in the data analysis. A broader definition of positive interactions might have yielded more useful information.

One apparently paradoxical but untestable finding at the present time is the fact that handicapped children spend longer average amounts of time with other children but consistently do less talking to peers than do nonhandicapped children. One would like to know whether these handicapped children were able to interact on a nonverbal level which could not be recorded in our observations. The variable of verbal interaction with peers, as it is presently defined for the ABC, includes nonverbal responses. A verbally initiated interaction which is responded to in a nonverbal way is included in the definition of verbal interaction. Also, the observed child can either be the interactional initiator or respondent. Thus, children with immature verbal skills but who interact regularly with a partner (such as a nonhandicapped peer) possessing greater verbal ability would score higher in verbal interaction than would two children who communicate primarily through nonverbal channels.[3] If a variable which measured appropriate nonverbal interaction were added to the ABC, one could more adequately assess whether physical proximity is associated with some degree of peer interaction for handicapped children.

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[3] Note: Verbal interaction with the teacher was defined in the same way as peer verbal interaction. However, handicapped students were more likely to engage in verbal interaction with the teacher than in verbal interaction with peers. This finding lends further support to the hypothesis that a child with some language disability or delay but who interacts with a partner with superior language skills can receive a high score in verbal interaction.

Another interesting finding which merits further investigation is the association between covert watching and unusually negative behaviors. One would like to know whether covert watching is associated with positive social behaviors such as social overtures as well as with fights. Observational data which permit sequential analysis could show whether watching tends to precede or follow fights or other social acts. Unfortunately, neither the ABC-NK nor the NK was constructed to test hypotheses such as these.

Finally, the attempt to supplement the behavior observations with additional diagnostic data was instructive even if it did not yield a clear-cut set of results. Knowing something about the presenting diagnosis of each handicapped child enabled me to make some sense out of the data on subjects who were misclassified by the discriminant function analyses. The fact that children who had been described as exhibiting fewer and more mild disabilities tended to be misclassified by the discriminant function is not surprising but does lend face validity to the results. In addition, the diagnostic information enabled me to see how heterogeneous the handicapped samples in the two preschools were. Unfortunately, the available diagnostic information was too often vague and confusing. Future studies such as this should attempt to get more consistent, complete and reliable diagnostic information on the handicapped subjects so that firmer conclusions about the relationship between a child's disability and his/her behavior could be drawn.

Obviously, additional observational studies of children's social and nonsocial behaviors are needed to replicate and augment our findings from two metropolitan Boston integrated preschools. Future observational studies should address some of the following research questions:

1. How can rare but potentially important behavioral events be recorded? How can their impact be assessed? How reliable and valid are teacher reports of these rare but critical classroom events?

2. To what extent can a child's physical appearance and personality compensate for some of the difficulties he or she may experience with social relations due to his or her disability?

3. Can teachers' and parents' assessments of a child's appearance, personality and classroom functioning be used to predict his or her present and future classroom behaviors?

4. To what extent do attitudes towards, conceptions of and information about handicapping conditions affect teachers' and children's behaviors towards handicapped children? (See Volume I of this report.)

5. Can reciprocal influences be identified between the behaviors of handicapped and nonhandicapped children in mainstreamed schools?

6. Does physical proximity to peers enhance nonverbal peer interaction? Is physical proximity to peers a precursor of verbal interaction with peers?

7. Is covert watching associated with prosocial as well as antisocial behaviors? Does covert watching precede the modeling of a variety of classroom behaviors or is it merely a sign of wariness?

8. Is there a relationship between a child's handicapping condition and his or her ability to participate in age-appropriate peer interactions? Do disabilities that affect verbal communication skills (e.g., significant hearing loss, severe articulation problems, etc.) appear to hamper normal peer relations more than do disabilities that affect other areas of functioning (e.g., orthopedic handicaps)?

Table 1

Inter-rater Reliability on the ABC (and ABC-NK) Instrument:

Intraclass Correlations

Variable description	N of paired observations	Range of r's	Weighted mean of r's
Percent time isolated	106	.87-.98	.94
Percent time with others--central	106	.76-.99	.86
Percent time with others--peripheral	106	.29-.81	.46[b]
Percent time with teacher	106	.05-.90	.36[b]
Percent time with others total	106	.86-.98	.92
Sounds & noises--isolated	106	.65-.93	.80
Sounds & noises--with others	33[a]	.51	.51[b]
Movements & gestures--isolated	106	.45-.89	.67[b]
Movements & gestures--with others	106	.84-.91	.85
Distracted--isolated	106	.85-.88	.85
Distracted--with others	76[a]	.14-.73	.46[b]
Wandering--isolated	106	.78-.93	.83
Amount of verbal interaction with peers	106	.93-.97	.94
Amount of verbal interaction with teacher	106	.89-.95	.91

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[a] These behaviors were too infrequent for reliability figures to be calculated using all of the paired observations.

[b] These variables were recoded into dichotomous variables and kappa was computed for the recoded variables. See Table 2 for the kappa levels.

Table 2

Inter-rater reliability on the ABC (and ABC-NK) Instrument:

Kappa Levels for Dichotomous Variables

Variable description	N of paired observations	Range of r's	Weighted mean of r's
Percent time with others--peripheral	106	.39-.71	.54
Percent time with teacher	106	.29-.89	.67
Sounds and noises--with others	106	.00-.42	.34
Distracted with others	106	.21-.57	.41
Movements and gestures--isolated	106	.70-.73	.71
Unusually positive behaviors	106	.20-.62	.28
Unusually negative behaviors	106	.67-.81	.76

Table 3

Inter-rater Reliability on the NK Instrument: Intraclass Correlations

Variable description	N of paired observations	Range of r's	Weighted mean of r's
Percent time isolated	59	.91-.92	.91
Percent time with others--central	59	.82-.97	.92
Percent time with teacher	59	.84-.99	.93
Watching & distraction--total	59	.59-.62	.61
Watching & distraction--isolated	20[a]	.65	.65
Watching & distraction--with others	59	.70-.77	.72
Teacher intervenes--total	59	.91-.92	.91
Teacher intervenes--with others	59	.92-.95	.94
Teacher intervenes--isolated	20	.58	.58
Wandering--total	59	.87-.98	.91
Wandering--isolated	59	.89-.92	.90
Wandering--with others	59	.88-.93	.90
Inappropriate material use--total	59	.94-.95	.95
Inappropriate material use--isolated	20[a]	.92	.92
Inappropriate material use--with others	59	.94-.95	.95
Sounds & noises--total	59	.86-.97	.90
Sounds & noises--isolated	20[a]	.23	.23
Sounds & noises--with others	59	.59-.74	.69
Gestures & movements--total	59	.94-.96	.95
Gestures & movements--isolated	59	.28-.87	.48
Gestures & movements--with others	59	.94-.95	.94

-continued-

Table 3 (cont.)

Inter-rater reliability on the NK instrument: Intraclass correlations

Variable description	N of paired observations	Range of r's	Weighted mean of r's
Amount of verbal interaction with peers	59	.95-.97	.96
Amount of verbal interaction with teacher	59	.95-.97	.96
Unusually positive interactions	59	.77-.78	.77
Unusually negative interactions	59	.68-.94	.85
Facial gestures & movements--total	59	.87-.98	.94
Facial gestures & movements--isolated	20[a]	.96	.96
Facial gestures & movements--with others	59	.88-.97	.94
Body & facial gestures & movements --total	59	.92-.96	.93
Body & facial gestures & movements --isolated	59	.23-.64	.37
Body & facial gestures & movements --with others	59	.93-.96	.94

[a] These behaviors were too infrequent for reliability figures to be calculated using all of the paired observations.

Table 4

Inter-rater Reliability on the Teacher Interview Instrument:
Intraclass Correlations

Interview question	N of paired ratings	r
1. Could you tell this child was handicapped by just looking at him/her?	36	.83
2. Does this child's handicap prevent him/her from participating in active, gross-motor activities?	36	.75
3. Does this child's handicap prevent him/her from participating in fine-motor activities?	36	.64
4. Does this child's handicap prevent him/her from participating in group activities?	36	.42
5. Does this child's handicap prevent him/her from participaitng in fantasy play?	35	.87
6. Does this child have any trouble communicating nonverbally?	62	.33
7. Does this child have any trouble communicating verbally?	62	.73
8. Has this child's ability to participate in any classroom activities changed markedly while you have know him/her? If so, how has his/her participation changed?	12	.58
9. Is this child fully toilet trained? If not, does frequent soiling tend to make this child unattractive to others?	12	.58
10. Does this child have an unpleasant odor for some other reason? If so, how does this affect his/her attractiveness?	0	-
11. Does this child periodically exhibit any unusual behaviors?	64	.79
12. Does this child frequently exhibit any unusual facial characteristics or expressions?	63	.63
13. How would you rate this child on physical attractiveness?	64	.82
14. Is this child more or less likeable than his/her classmates?	64	.77
15. Is this child more or less aggressive than his/her classmates?	64	.83

Table 5

Codes Used to Categorize the Presenting Diagnosis of the Handicapped Children in Preschools A & B

Code number	Diagnosis	Examples of diagnoses fitting this category
01	Moderate to severe cognitive deficit	Moderate or severe mental retardation; Down's syndrome; severe brain damage
02	Mild cognitve deficit	Mild mental retardation; learning disability; developmental delay; possible retardation or brain damage
03	Moderate to severe cerebral palsy	Cerebral palsy unless mild specified or unless other information seems to indicate mild
04	Mild cerebral palsy	
05	Moderate to severe communicative deficit	Little or no expressive language; significant, bilateral hearing loss; aphasia; disordered language
06	Mild communicative deficit	Some articulation difficulties; deaf in one ear; immature, depressed or delayed speech
07	Moderate to severe orthopedic deficit	Paraplegia; amputation; deformed limb development; moderate to severe muscular disorder
08	Mild orthopedic deficit	Some motoric difficulties; clumsy; poor fine or gross motor coordination; delayed motor development
09	Behavioral, social-emotional problems	Emotionally disturbed; behavior problem; hyperactive; severely withdrawn; bizarre behavior episodes; self-destructive
10	Other disabilities (especially physically or socially invisible ones)	Some vision problems; internal tumors; heart defects, lead paint poisoning; surgically repaired cleft palate; hydrocephalic with shunt
00	Not applicable or missing	

Table 6

A Cross Classification of Diagnostic Information from the Handicapped Subjects in Preschool A

Primary disability code	Secondary disability code						
	Missing information or not applicable	Mild cognitive deficit	Moderate to severe communicative deficit	Mild communicative deficit	Mild orthopedic deficit	Behavioral social-emotional problems	Row total
Missing	1[a]	0	0	0	0	0	1
Moderate to severe cognitive deficit	0	0	1	0	0	2	3
Moderate to severe cerebral palsy	1	0	0	0	0	0	1
Mild cerebral palsy	1	0	0	0	0	1	2
Moderate to severe communicative deficit	1	0	0	0	0	0	1
Mild communicative deficit	0	0	0	0	0	2	2
Moderate to severe orthopedic deficit	1	0	0	0	0	0	1
Mild orthopedic deficit	0	1	0	0	0	0	1
Behavioral, social-emotional problems	1	0	0	0	0	0	1
Invisible handicaps or other handicaps	0	1	0	1	1	0	3
Column total	6	2	1	1	1	5	16

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[1] The numbers in the cells represent the numbers of handicapped children receiving each combination of primary and secondary disability codes.

Table 7

Frequency Distribution of Severity of Impairment Information from the Handicapped Subjects in Preschool A

Severity of impairment code	Number of subjects	Percentage of total
1 - One mild handicap	2	13%
2 - Two mild handicaps	7	47%
3 - One moderate to severe handicap (with or without one mild handicap)	5	33%
4 - Two severe handicaps	1	7%
Total	15[a]	100%

[a] Disability data for one handicapped subject was missing.

Table 8

Variables Included in the Discriminant Function Analysis for Preschool A

Variable description	Variable name
1. Percent time spent isolated	ISOLATED
2. Percent time spent with others (with children and sometimes the teacher)	WCHILDREN
3. Percent time spent alone with the teacher	WTEACHER
4. Amount of verbal interaction with peers	VERBPEERS
5. Amount of verbal interaction with the teacher	VERBTEACHER
6. Watching & distraction while alone	WATCHING
7. Teacher intervenes--in the company of others	TEACHERINTVENES
8. Wandering--while alone	WANDERING
9. Inappropriate use of materials--in the company of others	INAPPMATERIALS
10. Sounds and noises--in all contexts	SOUNDS
11. Facial gestures & movements--in the company of others	FACEGESTURE
12. Body & facial gestures & movements--in all contexts	BODY&FACEGESTURE
13. Total gestures & movements--in the company of others	TOTALGESTURES
14. Unusually negative interactions	NEGATIVEINTERACTS

Table 9

Means and Standard Deviations for Handicapped and Nonhandicapped Subjects on the NK Variables (Winter 1977) - Preschool A

Variable name	Handicapped (N=16)		Nonhandicapped (N=16)	
	Mean	SD	Mean	SD
1. ISOLATED	11.2	7.7	6.1	4.1
2. WCHILDREN	41.3	12.9	54.5	13.8
3. WTEACHER	12.3	9.2	4.2	4.5
4. VERBPEERS	8.0	4.6	13.1	4.5
5. VERBTEACHER	12.6	4.7	9.8	4.0
6. WATCHING	4.4	2.3	3.1	1.2
7. TEACHERINTVENES	1.8	1.1	1.2	.8
8. WANDERING	2.8	1.1	2.2	1.0
9. INAPPMATERIALS	1.6	1.2	2.3	1.0
10. SOUNDS	1.9	1.6	1.8	1.4
11. FACEGESTURE	2.9	1.9	4.3	2.6
12. BODY&FACEGESTURE	5.7	3.7	4.0	1.9
13. TOTALGESTURES	8.0	4.2	8.0	3.1
14. NEGATIVEINTERACTS	.8	.4	.4	.5

Table 10

Means and Standard Deviations for Handicapped and Nonhandicapped Subjects on the NK Variables (Spring 1977) - Preschool A

Variable name	Handicapped (N=16)		Nonhandicapped (N=16)	
	Mean	SD	Mean	SD
1. ISOLATED	12.7	7.5	7.3	6.8
2. WCHILDREN	45.6	13.2	47.9	11.8
3. WTEACHER	9.1	6.3	3.0	2.1
4. VERBPEERS	7.7	3.6	13.8	3.5
5. VERBTEACHER	12.8	4.3	9.6	2.7
6. WATCHING	4.4	2.6	3.3	1.3
7. TEACHERINTVENES	1.7	1.4	1.6	0.9
8. WANDERING	2.8	1.3	2.8	1.6
9. INAPPMATERIALS	2.0	1.2	2.5	2.3
10. SOUNDS	1.4	0.8	1.4	1.0
11. FACEGESTURE	2.7	3.2	3.0	2.0
12. BODY&FACEGESTURE	5.6	3.4	4.7	2.5
13. TOTALGESTURES	7.6	4.9	7.4	3.3
14. NEGATIVEINTERACTS	0.7	0.5	0.3	0.5

Table 11

Ranked Variables for Each Group and Standardized Discriminant Function Coefficients (Winter 1977) - Preschool A

Rank of variable	Variable name	Coefficient size & sign
Variables which tend to be associated with handicapped students		
1.	WTEACHER	-.72
2.	BODY&FACEGESTURE	-.55
3.	NEGATIVEINTERACTS	-.36
4.	WANDERING	-.25
5.	SOUNDS	-.23
6.	WATCHING	-.20
7.	TEACHERINTVENES	-.20
8.	FACEGESTURE	-.07
Variables which tend to be associated with nonhandicapped students		
1.	INAPPMATERIALS	.68
2.	TOTALGESTURES	.60
3.	VERBTEACHER	.55
4.	VERBPEERS	.40
5.	ISOLATED	.17
6.	WCHILDREN	.06

Table 12

Ranked Variables for Each Group and Standardized Discriminant Function Coefficients (Spring 1977) - Preschool A

Rank of variable	Variable name	Coefficient size & sign
Variables which tend to be associated with handicapped subjects[a]		
1.	SOUNDS	-1.23
2.	NEGATIVEINTERACTS	-1.08
3.	WTEACHER	-0.79
4.	WCHILDREN	-0.56
5.	ISOLATED	-0.34
6.	TOTALGESTURES	-0.32
7.	WATCHING	-0.12
8.	VERBTEACHER	-0.11
Variables which tend to be associated with nonhandicapped subjects		
1.	VERBPEERS	0.81
2.	TEACHERINTVENES	0.76
3.	FACEGESTURE	0.39
4.	INAPPMATERIALS	0.32
5.	WANDERING	0.17

[a] The variable, BODY&FACEGESTURES, received a coefficient of 0.00 which means that it was not used to derive the discriminant function.

Table 14

A Cross Classification of Diagnostic Information from the Handicapped Subjects in the First-year sample in Preschool B

Primary disability code	Secondary disability code							
	Not applicable	Mild cognitive deficit	Moderate to severe communicative deficit	Mild communicative deficit	Mild orthopedic deficit	Behavioral, social-emotional problems	Other disabilities	Row Total
Moderate to severe cognitive deficit	2	0	1	0	0	0	0	3
Mild cognitive deficit	0	0	0	2	1	1	0	4
Moderate to severe cerebral palsy	0	0	1	0	0	0	0	1
Mild cerebral palsy	1	0	0	0	0	0	0	1
Moderate to severe communicative deficit	3	1	0	0	0	0	0	4
Mild communicative deficit	6	1	0	0	0	1	0	8
Moderate to severe orthopedic deficit	1	1	0	0	0	0	0	2
Mild orthopedic deficit	0	0	0	1	0	0	0	1
Behavioral, social-emotional problems	3	2	0	0	0	0	1	6
Other disabilities	0	0	0	1	0	0	0	1
Column Totals	16	5	2	4	1	2	1	31

Table 15

A Cross Classification of Diagnostic Information from the Handicapped Subjects in the Two-year Sample in Preschool B

Primary disability code	Secondary disability code				
	Missing information or not applicable	Mild cognitive deficit	Moderate to severe communicative deficit	Behavioral, social-emotional problems	Row total
Moderate to severe cognitive deficit	1	0	0	0	1
Moderate to severe cerebral palsy	0	0	1	0	1
Mild cerebral palsy	1	0	0	0	1
Moderate to severe communicative deficit	0	1	0	0	1
Mild communicative deficit	4	1	0	1	6
Moderate to severe orthopedic deficit	0	1	0	0	1
Behavioral, social-emotional problems	1	0	0	0	1
Column total	7	3	1	1	12

Table 16

Frequency Distribution of Severity of Impairment Information from the Handicapped Subjects in the Total Sample, the First-year Sample and the Two-year Sample - Preschool B

Severity of impairment code	Sample					
	Total		First-year		Two-year	
	N	(% of total)	N	(% of total)	N	(% of total)
1 - One mild handicap	12	(29%)	10	(32%)	6	(50%)
2 - Two mild handicaps	18	(44%)	11	(36%)	2	(17%)
3 - One moderate to severe handicap (with or without one mild handicap)	9	(22%)	8	(26%)	3	(25%)
4 - Two moderate to severe handicaps	2	(5%)	2	(6%)	1	(8%)
Total N of handicapped subjects	41		31		12	

Table 17

Variables Included in the Discriminant Function Analysis for Preschool B

Variable description	Variable name
1. Average percentage of time spent isolated	ISOLATED
2. Average percentage of time spent with other children as a central group figure (the teacher may or may not be present)	WCHILDREN
3. Total time spent alone with the teacher	WTEACHER[a]
4. Maximum observed time spent as a central peer group participant	MAXWCHILDREN[a]
5. Maximum observed time spent with the teacher and with other children	MAXWOTHERS[a]
6. Average percent time spent in verbal interaction with peers	VERBPEERS
7. Average percent time spent in verbal interaction with the teacher	VERBTEACHER
8. Total amount of sounds and noises--while alone	SOUNDS[a]
9. Total amount of facial and body gestures and movements--in the company of others	GESTURESWOTHERS
10. Total amount of facial and body gestures and movements--while alone	GESTURESALONE[a]
11. Maximum amount of distraction and watching behavior while alone	MAXWATCHING[a]
12. Maximum amount of wandering --while alone	MAXWANDERING[a]
13. Unusually negative interactions	NEGATIVEINTERACTS[a]

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[a] These variables are all dichotomous. (0 = below the median; 1 = above the median.)

Table 18

First-year Sample - Means and Standard Deviations for Handicapped and Nonhandicapped Subjects on the ABC-NK Variables (Fall 1977)

- Preschool B -

Variable	Handicapped (N=31)		Nonhandicapped (N=23)	
	Mean	SD	Mean	SD
1. ISOLATED	11.5	6.0	11.5	7.5
2. WCHILDREN	31.0	14.0	32.0	12.0
3. WTEACHER	.5	.5	.5	.5
4. MAXWCHILDREN	.5	.5	.5	.5
5. MAXWOTHERS	.5	.5	.6	.5
6. VERBPEERS	15.5	10.0	17.0	11.0
7. VERBTEACHER	20.0	8.0	16.0	7.0
8. SOUNDS	.5	.5	.3	.5
9. GESTURESWOTHERS	43.2	14.6	43.8	16.3
10. GESTURESALONE	.6	.5	.8	.4
11. MAXWATCHING	.5	.5	.4	.5
12. MAXWANDERING	.6	.5	.6	.5
13. NEGATIVEINTERACTS	.6	.5	.3	.5

Table 19

First-year Sample - Means and Standard Deviations for Handicapped and Nonhandicapped Subjects on the ABC-NK Variables (Spring 1978)

- Preschool B -

Variable	Handicapped (N=31)		Nonhandicapped (N=23)	
	Mean	SD	Mean	SD
1. ISOLATED	9.7	5.9	10.4	7.6
2. WCHILDREN	34.6	9.8	33.2	10.9
3. WTEACHER	.8	.4	.6	.5
4. MAXWCHILDREN	.5	.5	.6	.5
5. MAXWOTHERS	.5	.5	.5	.5
6. VERBPEERS	23.2	12.0	25.4	14.2
7. VERBTEACHER	12.3	7.2	10.3	5.5
8. SOUNDS	.6	.5	.3	.5
9. GESTURESWOTHERS	33.5	15.3	38.1	18.5
10. GESTURESALONE	.6	.5	.5	.5
11. MAXWATCHING	.5	.5	.3	.5
12. MAXWANDERING	.4	.5	.3	.5
13. NEGATIVEINTERACTS	.7	.5	.4	.5

Table 20

Two-year Sample — Means and Standard Deviations for Handicapped and Nonhandicapped Subjects on the ABC-NK Variables (Fall 1977)

- Preschool B -

Variable	Handicapped (N=12)		Nonhandicapped (N=16)	
	Mean	SD	Mean	SD
1. ISOLATED	13.1	5.6	10.1	5.9
2. WCHILDREN	26.0	14.5	32.3	11.9
3. WTEACHER	.6	.5	.4	.5
4. MAXWCHILDREN	.4	.5	.6	.5
5. MAXWOTHERS	.4	.5	.6	.5
6. VERBPEERS	9.5	5.9	23.0	11.6
7. VERBTEACHER	19.7	8.6	15.5	6.8
8. SOUNDS	.6	.5	.2	.4
9. GESTURESWOTHERS	50.3	13.3	43.1	17.7
10. GESTURESALONE	.3	.5	.2	.4
11. MAXWATCHING	.5	.5	.4	.5
12. MAXWANDERING	.6	.5	.6	.5
13. NEGATIVEINTERACTS	.5	.5	.4	.5

Table 21

Two-year Sample - Means and Standard Deviations for Handicapped and Nonhandicapped Subjects on the ABC-NK Variables (Spring 1978)

- Preschool B -

Variable	Handicapped (N=12)		Nonhandicapped (N=16)	
	Mean	SD	Mean	SD
1. ISOLATED	11.5	5.5	10.0	6.5
2. WCHILDREN	32.0	11.0	35.0	9.0
3. WTEACHER	.4	.5	.2	.4
4. MAXWCHILDREN	.2	.4	.7	.5
5. MAXWOTHERS	.4	.5	.6	.5
6. VERBPEERS	19.5	9.5	28.5	15.0
7. VERBTEACHER	14.5	9.0	11.5	5.5
8. SOUNDS	.7	.5	.2	.4
9. GESTURESWOTHERS	31.3	17.0	33.2	11.2
10. GESTURESALONE	.7	.5	.4	.5
11. MAXWATCHING	.8	.4	.3	.5
12. MAXWANDERING	.5	.5	.4	.5
13. NEGATIVEINTERACTS	.6	.5	.3	.5

Table 22

Two-year Sample - Means and Standard Deviations for Handicapped and Nonhandicapped Subjects on the ABC-NK Variables (Fall 1978)

- Preschool B -

Variable	Handicapped (N=12)		Nonhandicapped (N=16)	
	Mean	SD	Mean	SD
1. ISOLATED	7.0	4.5	9.0	9.0
2. WCHILDREN	30.0	10.5	36.5	9.0
3. WTEACHER	.8	.4	.7	.5
4. MAXWCHILDREN	.3	.5	.7	.5
5. MAXWOTHERS	.3	.5	.6	.5
6. VERBPEERS	15.0	7.5	29.5	12.0
7. VERBTEACHER	10.0	7.5	7.5	4.5
8. SOUNDS	.5	.5	.2	.4
9. GESTURESWOTHERS	38.0	15.7	29.0	15.3
10. GESTURESALONE	.4	.5	.3	.5
11. MAXWATCHING	.4	.5	.4	.5
12. MAXWANDERING	.5	.5	.4	.5
13. NEGATIVEINTERACTS	.4	.5	.7	.5

Table 23

Two-year Sample - Means and Standard Deviations for Handicapped and Nonhandicapped Subjects on the ABC-NK Variables (Spring 1979)

- Preschool B -

Variable	Handicapped (N=12)		Nonhandicapped (N=16)	
	Mean	SD	Mean	SD
1. ISOLATED	8.0	5.5	6.0	4.5
2. WCHILDREN	33.0	12.0	40.0	7.0
3. WTEACHER	.6	.5	.6	.5
4. MAXWCHILDREN	.4	.5	.6	.5
5. MAXWOTHERS	.5	.5	.6	.5
6. VERBPEERS	18.0	8.0	25.0	10.5
7. VERBTEACHER	9.0	5.0	7.5	4.5
8. SOUNDS	.3	.5	.3	.5
9. GESTURESWOTHERS	33.7	11.6	29.6	11.8
10. GESTURESALONE	.6	.5	.3	.5
11. MAXWATCHING	.7	.5	.5	.5
12. MAXWANDERING	.2	.5	.2	.4
13. NEGATIVEINTERACTS	.8	.4	.5	.5

Table 24

Ranked Variables for Each Group and Standardized Discriminant Function Coefficients (Fall 1977) For First-year Sample Preschool B[a]

Rank of variable	Variable name	Coefficient size & sign
Variables which tend to be associated with handicapped students		
1.	NEGATIVEINTERACTS	-.62
2.	MAXWATCHING	-.44
3.	SOUNDS	-.38
4.	WTEACHER	-.31
5.	MAXWCHILDREN	-.12
6.	WCHILDREN	-.08
Variables which tend to be associated with nonhandicapped students		
1.	VERBPEERS	.78
2.	GESTURESALONE	.47
3.	VERBTEACHER	.24
4.	ISOLATED	.22
5.	GESTURESWOTHERS	.15
6.	MAXWOTHERS	.11
7.	MAXWANDERING	.10

[a] N=54

Table 25

Ranked Variables for Each Group and Standardized Discriminant Function Coefficients (Spring 1978) For First-year Sample Preschool B[a]

Rank of variable	Variable name	Coefficient size & sign
Variables which tend to be associated with handicapped students		
1.	SOUNDS	-.65
2.	WCHILDREN	-.63
3.	MAXWOTHERS	-.47
4.	MAXWATCHING	-.46
5.	NEGATIVEINTERACTS	-.30
6.	VERBTEACHER	-.23
7.	GESTURESALONE	-.12
8.	MAXWANDERING	-.06
9.	WTEACHER	-.04
Variables which tend to be associated with nonhandicapped students		
1.	VERBPEERS	.46
2.	MAXWCHILDREN	.44
3.	ISOLATED	.40
4.	GESTURESWOTHERS	.30

[a] N=54

Table 26

Ranked Variables for Each Group and Standardized Discriminant Function Coefficients (Fall 1977) For Two-year Sample Preschool B[a]

Rank of variable	Va[illegible] na[illegible]	Coefficient size & sign
Variables which tend to be associated with handicapped students		
1.	VERBTEACHER	1.00
2.	SOUNDS	.99
3.	WCHILDREN	.88
4.	MAXWOTHERS	.28
5.	MAXWANDERING	.12
6.	GESTURESALONE	.05
Variables which tend to be associated with nonhandicapped students		
1.	VERBPEERS	-1.10
2.	MAXWCHILDREN	- .69
3.	NEGATIVEINTERACTS	- .65
4.	MAXWATCHING	- .51
5.	ISOLATED	- .34
6.	WTEACHER	- .31
7.	GESTURESWOTHERS	- .08

[a] N=28

Table 27

Ranked Variables for Each Group and Standardized Discriminant Function Coefficients (Spring 1978) For Two-year Sample Preschool B[a]

Rank of variable	Variable name	Coefficient size & sign
Variables which tend to be associated with handicapped students		
1.	MAXWATCHING	-.67
2.	SOUNDS	-.66
3.	WCHILDREN	-.65
4.	NEGATIVEINTERACTS	-.56
5.	GESTURESALONE	-.14
6.	VERBTEACHER	-.12
7.	MAXWANDERING	-.05
8.	MAXWOTHERS	-.02
9.	GESTURESWOTHERS	-.01
Variables which tend to be associated with nonhandicapped students		
1.	MAXWCHILDREN	.46
2.	ISOLATED	.42
3.	VERBPEERS	.40
4.	WTEACHER	.14

[a] N=28

Table 28

Ranked Variables for Each Group and Standardized Discriminant Function Coefficients (Fall 1978) For Two-year Sample Preschool B[a]

Rank of variable	Variable name	Coefficient size & sign
Variables which tend to be associated with handicapped students		
1.	WCHILDREN	1.07
2.	GESTURESALONE	.79
3.	SOUNDS	.28
4.	VERBTEACHER	.22
Variables which tend to be associated with nonhandicapped students		
1.	ISOLATED	-1.36
2.	VERBPEERS	-1.21
3.	MAXWCHILDREN	-1.20
4.	MAXWOTHERS	- .87
5.	MAXWATCHING	- .43
6.	MAXWANDERING	- .41
7.	NEGATIVEINTERACTS	- .40
8.	GESTURESWOTHERS	- .36
9.	WTEACHER	- .23

[a] N=28

Table 29

Ranked Variables for Each Group and Standardized Discriminant Function Coefficients (Spring 1979) For Two-year Sample Preschool B[a]

Rank of variable	Variable name	Coefficient size & sign
Variables which tend to be associated with handicapped students		
1.	GESTURESALONE	.85
2.	VERBTEACHER	.70
3.	GESTURESWOTHERS	.61
4.	MAXWOTHERS	.42
5.	NEGATIVEINTERACTS	.31
6.	ISOLATED	.17
7.	MAXWCHILDREN	.16
8.	MAXWATCHING	.10
Variables which tend to be associated with nonhandicapped students		
1.	WTEACHER	-.66
2.	SOUNDS	-.45
3.	MAXWANDERING	-.39
4.	WCHILDREN	-.38
5.	VERBPEERS	-.27

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[a] N=28

Table 30

Multiple Regression for First-year Sample Preschool B:[a] Prediction of Spring 1978 Discriminant Function Score

Independent variables	Multiple R	R^2	Simple r	Beta
1. Attractiveness	.48	.24	.48	.38
2. Aggressiveness	.55	.30	.30	.30
3. Verbal ability	.59	.34	.30	.23
4. Fall 1977 discriminant function	.61	.38	.34	.20
5. Likeable	.62	.38	.37	-.09

[a] N=54

Table 31

Multiple Regression for First-year Sample Preschool B[a] (Handicapped Children): Prediction of Spring 1978 Discriminant Function Score

Independent variables	Multiple R	R^2	Simple r	Beta
1. Fall 1977 discriminant function	.15	.02	.15	.14
2. Ability to participate in classroom activities	.17	.03	-.11	.19
3. Severity of impairment	.19	.04	.02	.14
4. Handicapped appearance	.22	.05	-.13	-.14
5. Attractiveness	.50	.25	.42	.51
6. Aggressiveness	.53	.28	.13	.21
7. Likeable	.54	.29	.27	.10

[a] N=30

Table 32

Multiple Regression for Two-year Sample Preschool B:[a] Prediction of Spring 1979 Discriminant Function Score

Independent variables	Multiple R	R^2	Simple r	Beta
1. Fall 1978 discriminant function	.64	.40	.64	.55
2. Aggressiveness	.69	.49	.32	.31
3. Attractiveness	.71	.51	-.37	-.38
4. Likeable	.74	.55	-.15	.29

[a] N=28

Table 33

Multiple Regression for Two-year Sample Preschool B[a] (Handicapped Children): Prediction of Spring 1979 Discriminant Function Score

Independent variables	Multiple R	R^2	Simple r	Beta
1. Fall 1978 discriminant function	.65	.42	.65	.40
2. Ability to participate in classroom activities	.71	.50	.42	.30
3. Spring 1978 discriminant function	.73	.53	.08	.52
4. Looks somewhat handicapped	.80	.65	.23	.84
5. Fall 1977 discriminant function	.84	.70	-.20	-.46
6. Definitely looks handicapped	.88	.77	.15	.38

[a] N=11

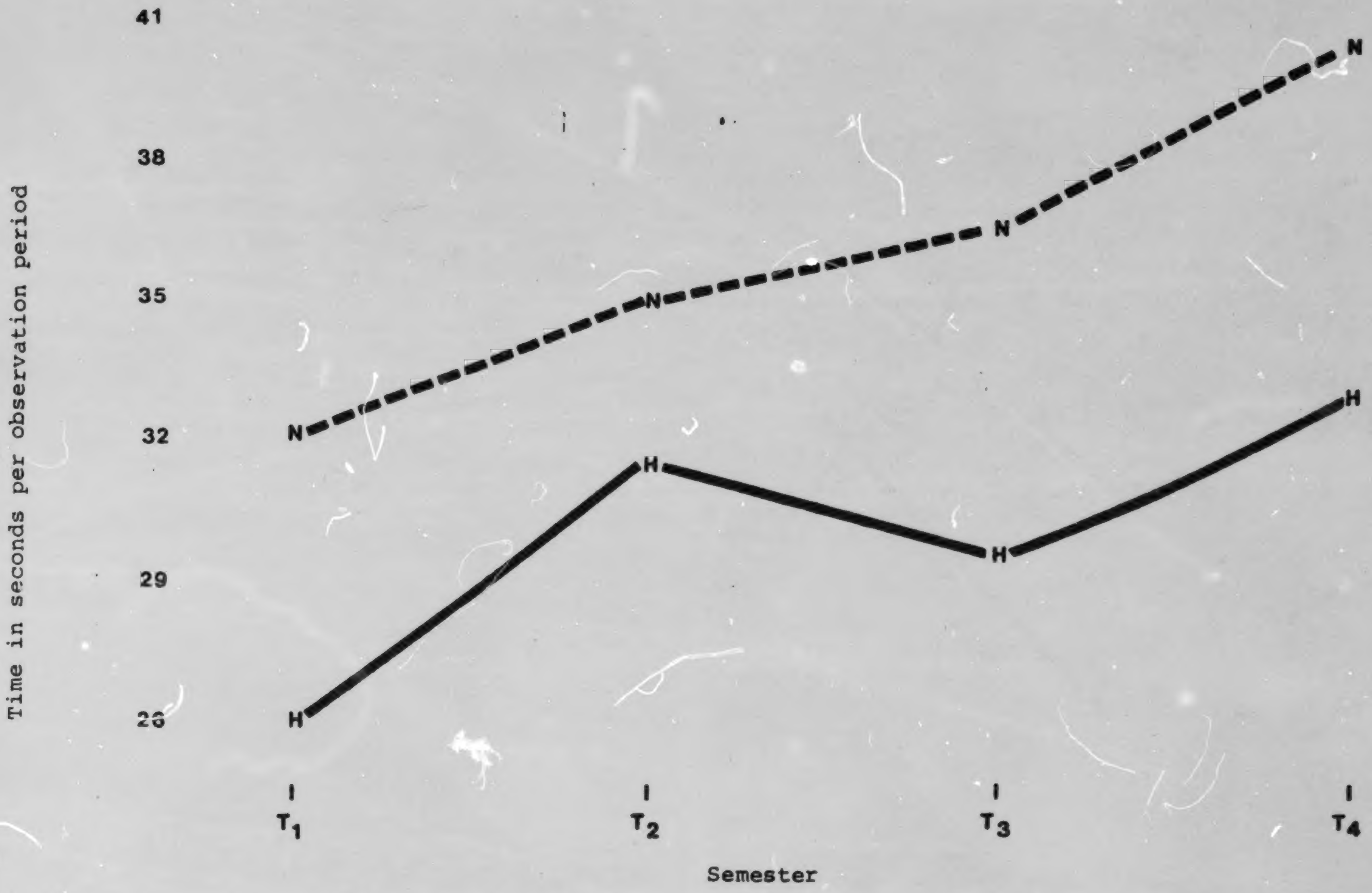

Figure 1. Mean amount of time target child spent with other children as a function of grouped (handicapped or nonhandicapped) and semester.

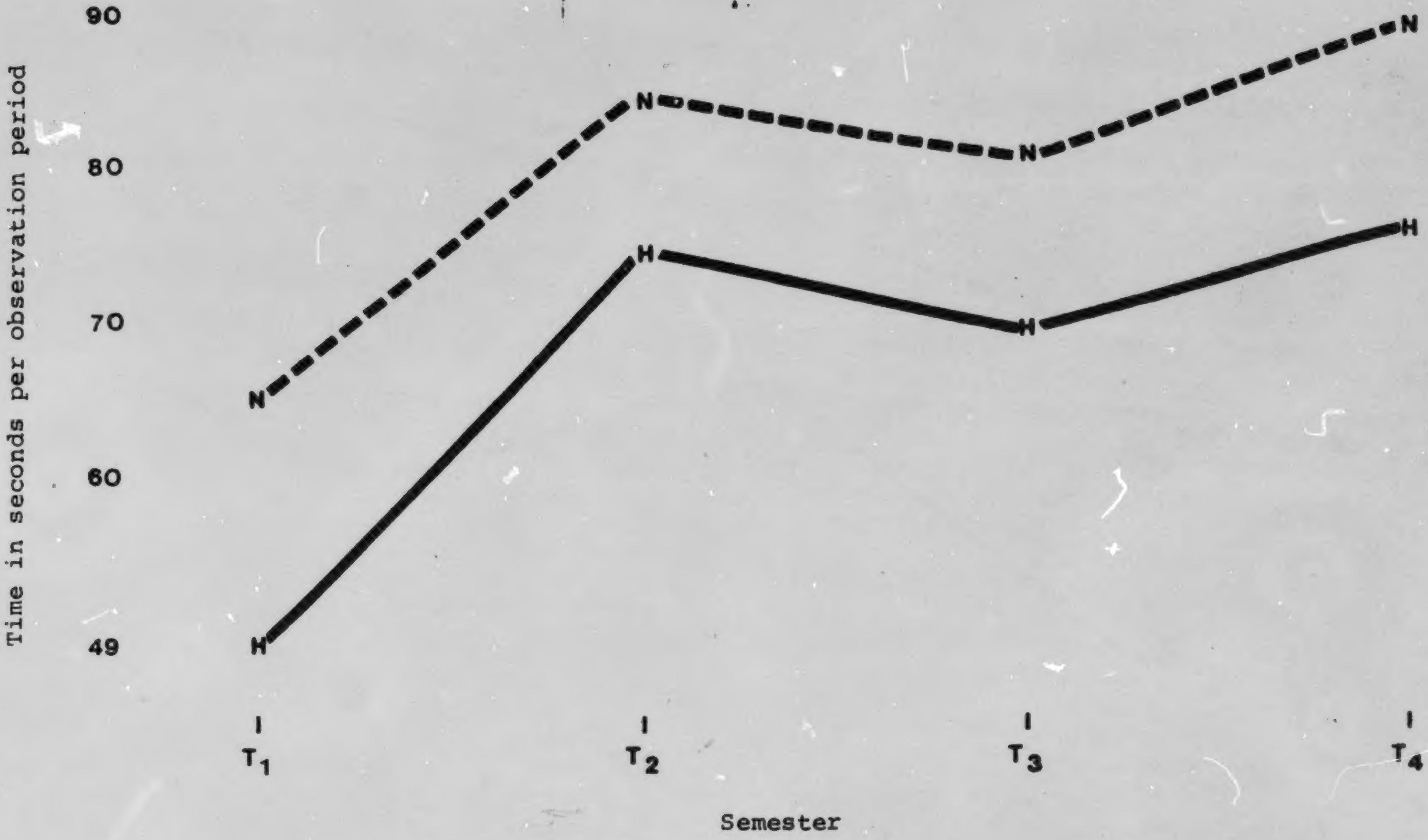

Figure 2. Maximum amount of time target child spent with other children as a function of group (handicapped or nonhandicapped) and semester.

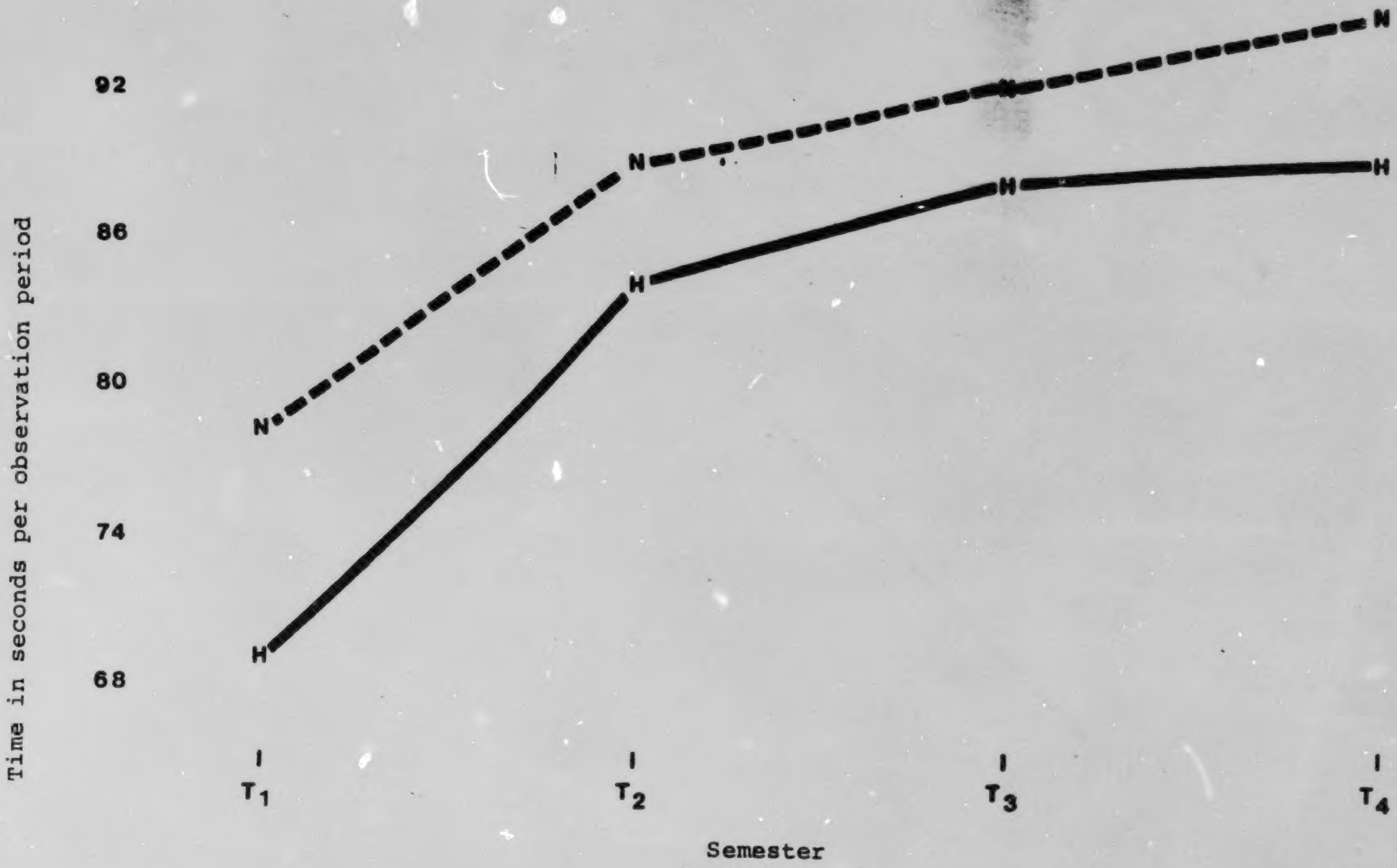

Figure 3. Maximum amount of time target child spent with all others as a function of group (handicapped or nonhandicapped) and semester.

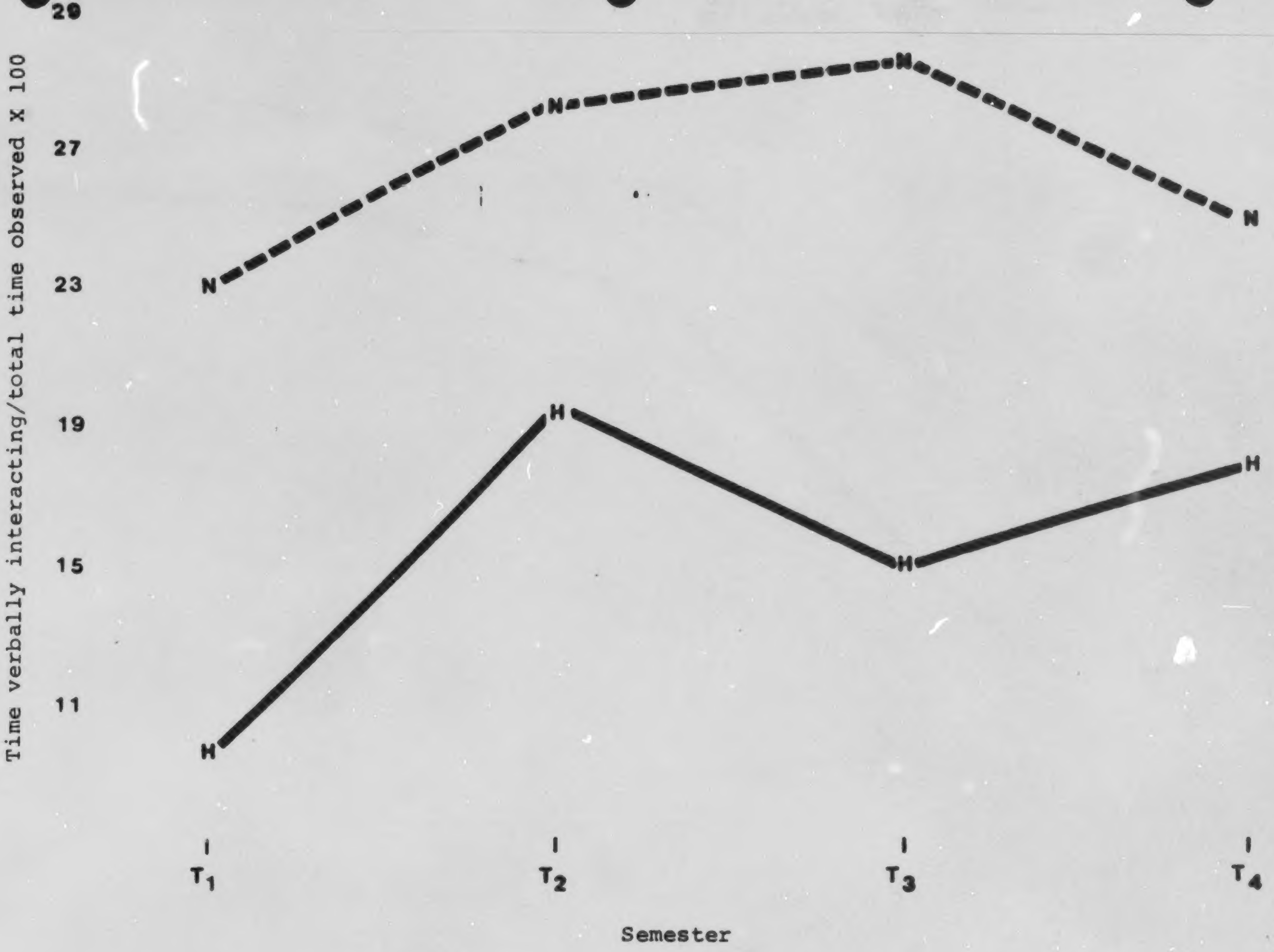

Figure 4. Percentage of total time observed that target child verbally interacter with other children as a function of group (handicapped or nonhandicapped) and semester.

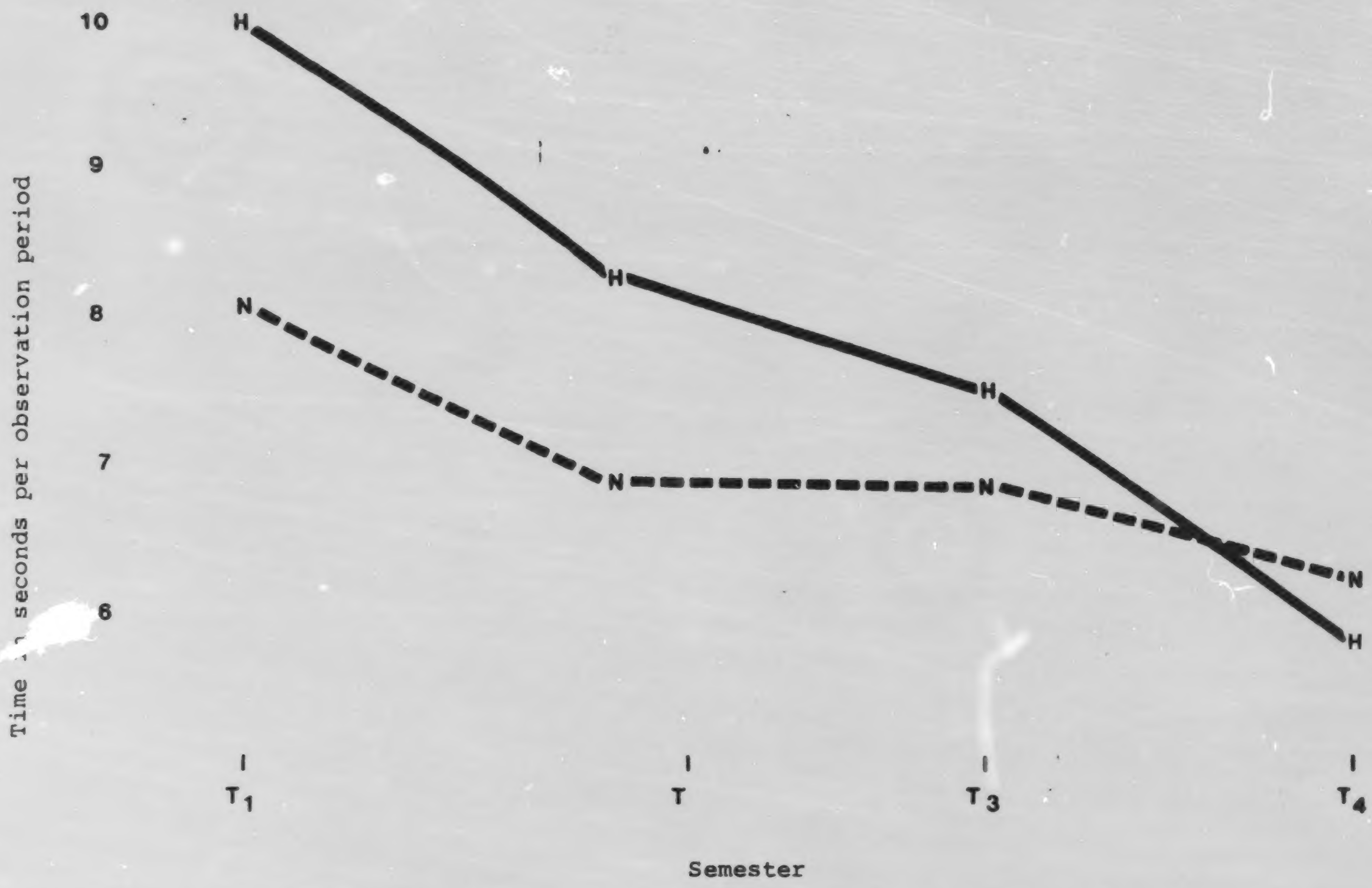

Figure 5. Mean amount of time target child spent with teacher as a function of group (handicapped or nonhandicapped) and semester.

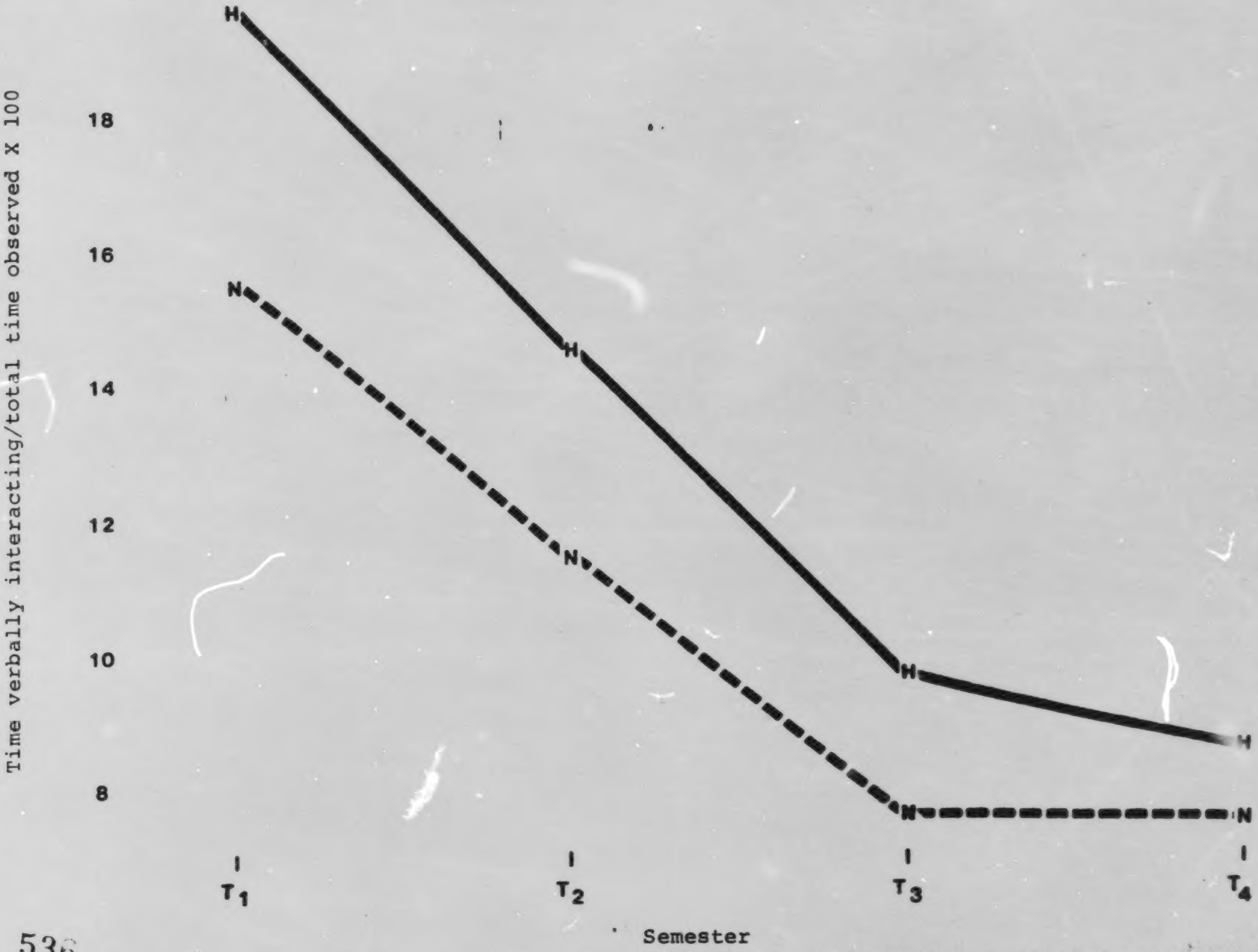

Figure 6. Percentage of total time observed that target child verbally interacted with teacher as a function of group (handicapped or nonhandicapped) and semester.

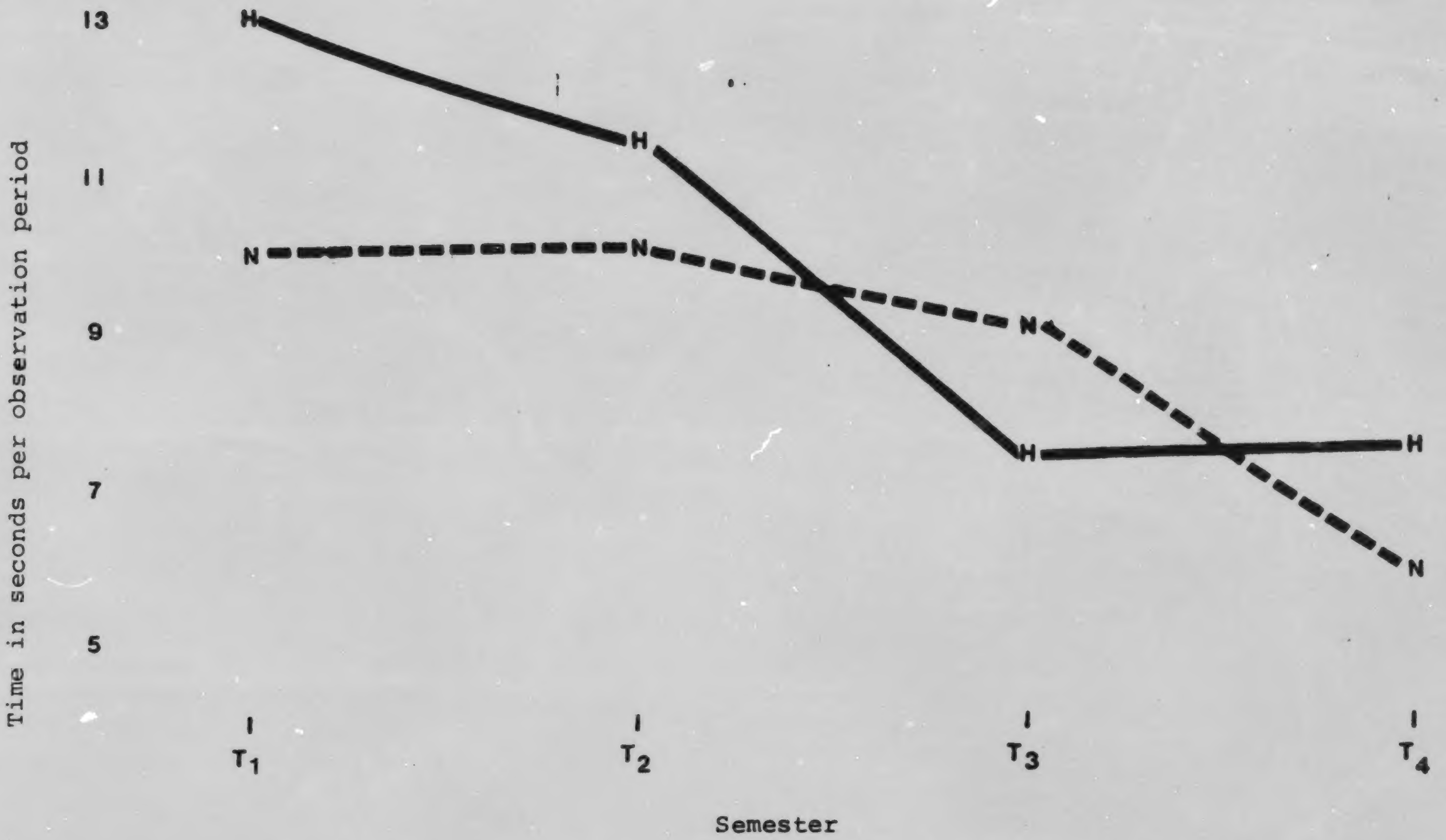

Figure 7. Mean amount of time target child spent isolated from others as a function of group (handicapped or nonhandicapped) and semester.

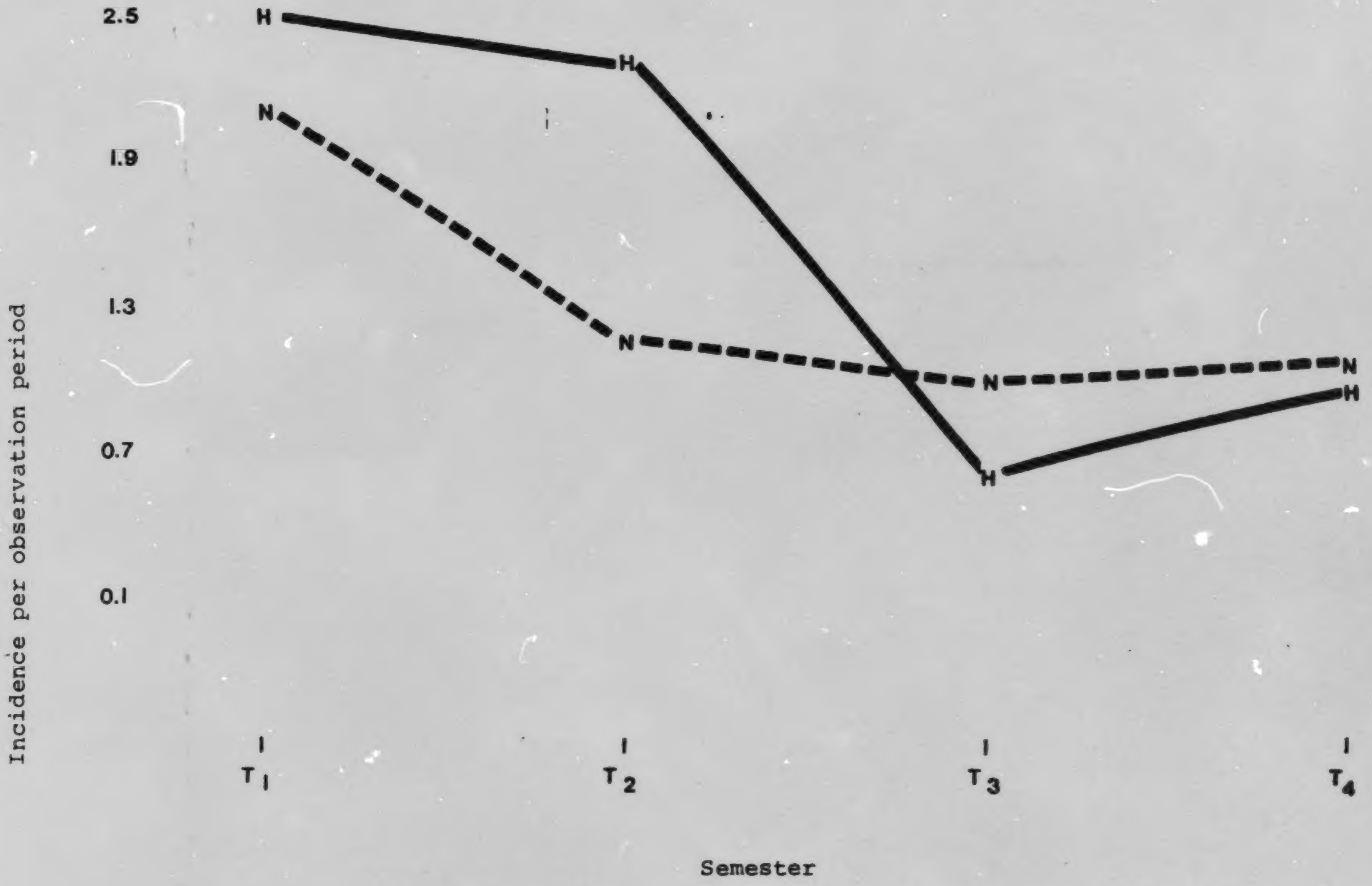

Figure 8. Maximum number of distractable and covertly observing behavior of target child while alone as a function of group (handicapped or nonhandicapped) and semester.

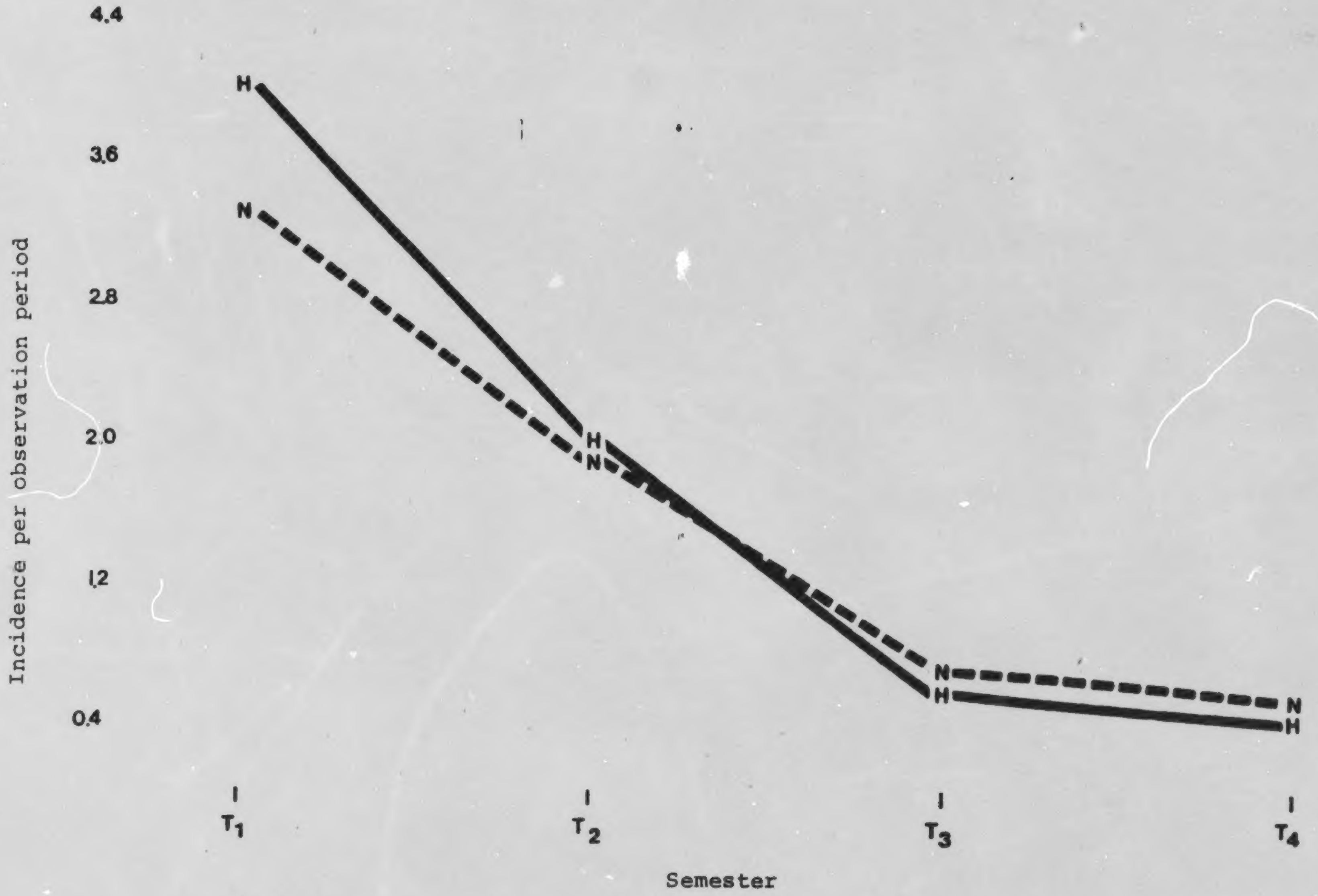

Figure 9. Maximum number of wandering behaviors of target child while alsone as a function of group (handicapped or nonhandicapped) and semester.

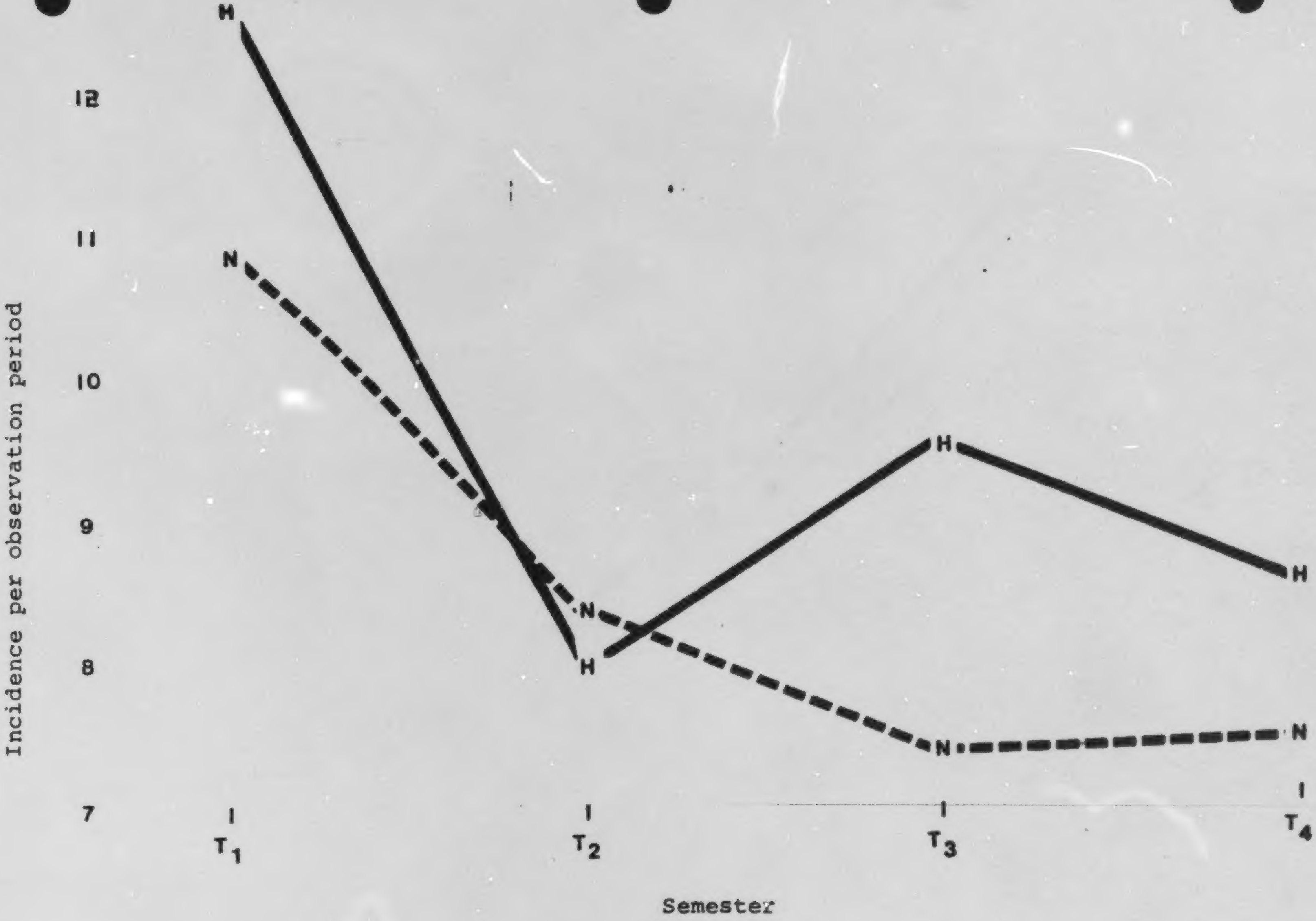

Figure 10. Mean number of unusual gestures and movements target child emits in the presence of others as a function of group (handicapped or nonhandicapped) and semester.

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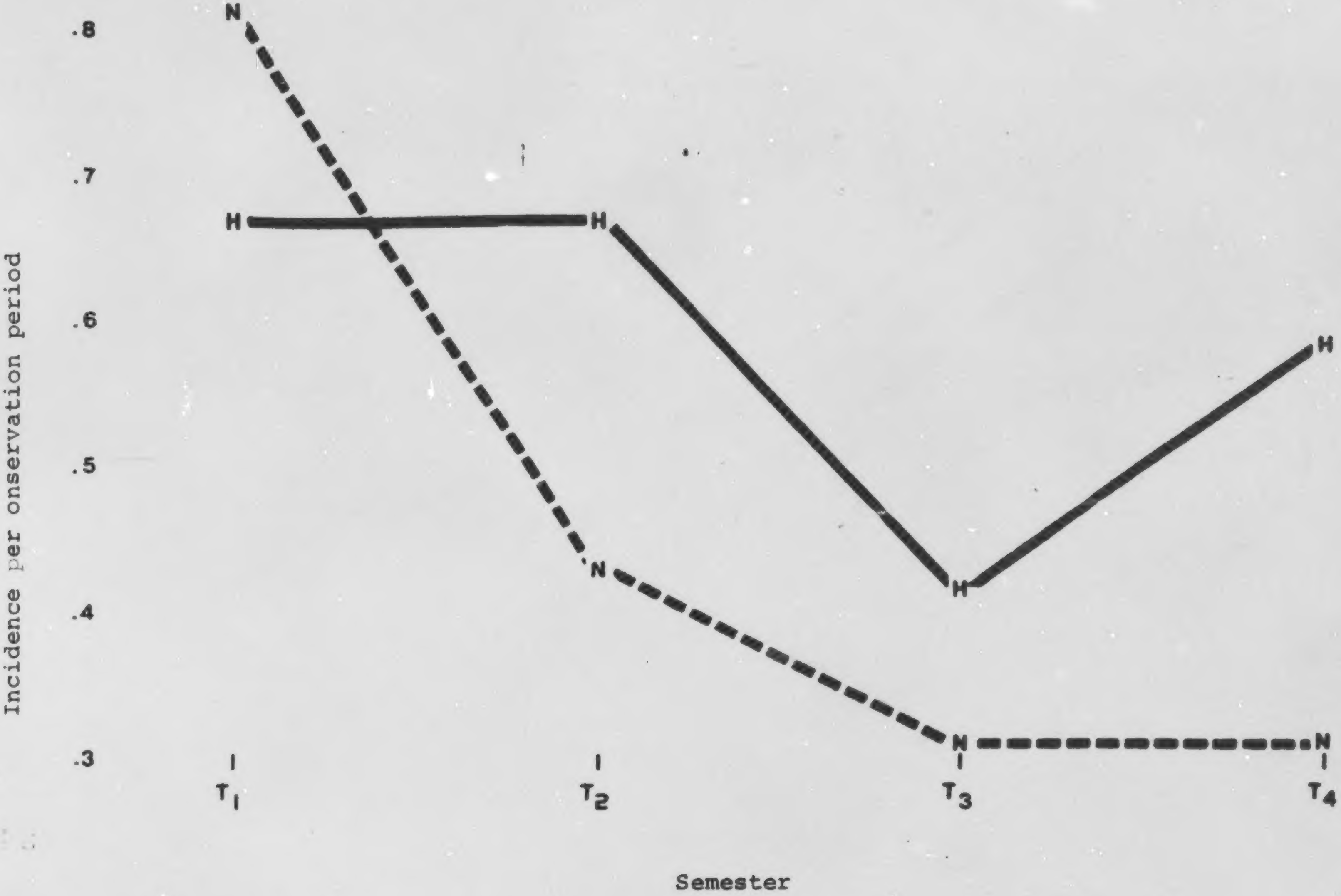

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Figure 11. Mean number of unusual gestures and movements target child emits while alone as a function of group (handicapped or nonhandicapped) and semester.

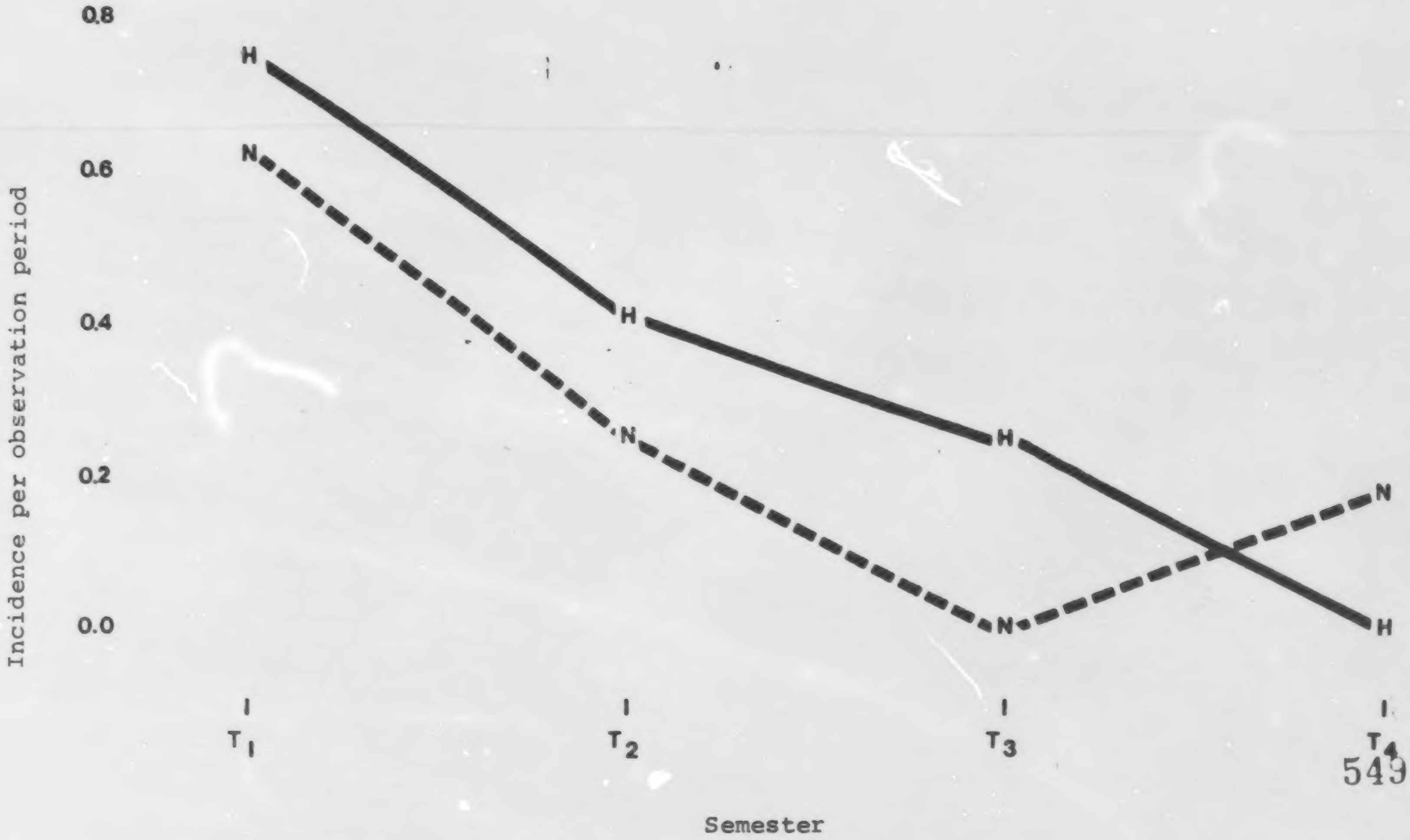

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Figure 12. Mean incidence of target child's emission of sounds and noises while alone as a function of group (handicapped or nonhandicapped) and semester.

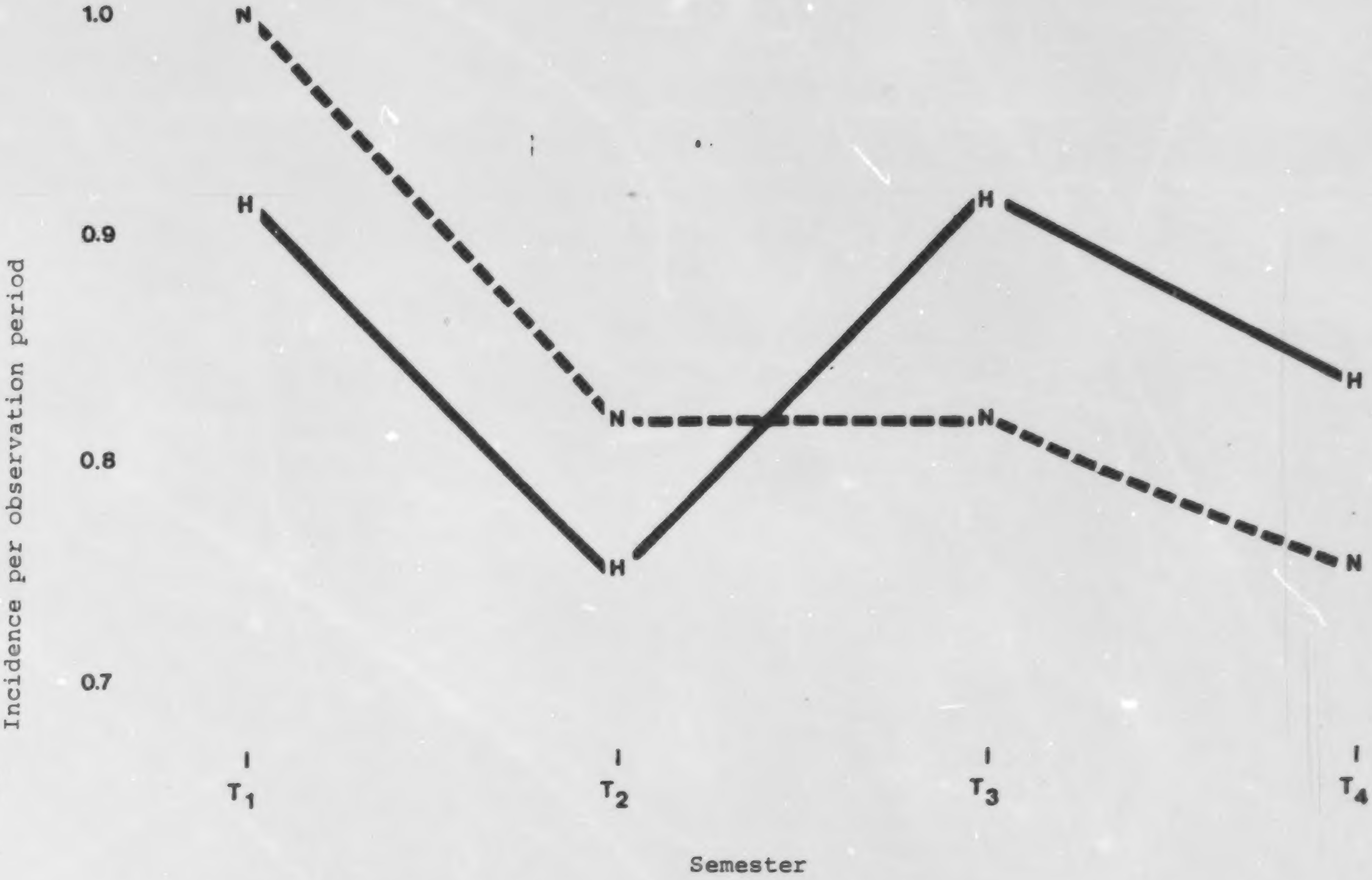

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Figure 13. Mean incidence of unusuable negative behavior emitted by target child as a function of group (handicapped or nonhandicapped) and semester.

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all Vol III

FINAL REPORT

THE DEVELOPMENT OF CONCEPTS OF DEVIANCE IN CHILDREN

Grant No. G007602459

VOLUME III

CODING MANUAL

FOR INTERVIEWS ABOUT CONCEPTS OF HANDICAPS

Milton Budoff and Susan Conant

The research reported herein was performed pursuant to a grant with the U.S. Office of Education, Bureau of Education for the Handicapped, U.S. Department of Health, Education, and Welfare. Contractors undertaking such projects under Government sponsorship are encouraged to express freely their professional judgment in the conduct of the project. Points of view or opinions stated do not, therefore, necessarily represent official U.S. Office of Education policy.

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1980

EC 162899

Preface and Acknowledgements

This third Volume of The Development of Concepts of Deviance in Children (Final Report, Grant No. G007602459) contains the coding manual used in the study reported in Volume I ("The Development of Concepts of Handicaps: An Interview Study"). This manual was designed for use in coding the interview data collected using the Concepts of Handicaps Interview Schedule which appears in Appendix B of Volume I of this report.

We would like to express our thanks to Teresa Wright for her work in preparing this volume of the report.

Milton Budoff and Susan Conant

General Meaning of Codes

Unless otherwise indicated, the following codes have the following meanings:

0 = subject does not express awareness of the handicap

1 = no

2 = yes

9 = missing data

BL1

1 vs. 3

If s says everyone can see, but goes on to discuss not seeing, Code 3.

% = 90

K = .71

BL3

Those born blind differ from those who became blind later.

% = 82

K = .61

Awareness: Does s

0 = blank on topic, have nothing to say, provide only total irrelevancies

1 = actively assert that everyone can see and say nothing more

2 = discuss topic in terms of distorting idea, make condition for something else, (e.g., long hair, not eating carrots, masks, blindfolds, no eyes)

3 = entertain the idea, provide some content, agree there might be such people although not sure there really are

4 = show awareness that there really are such people, (e.g., use word blind or mention information showing correct identification) (When in doubt as to whether not to code "4", do so)

9 = missing data

Does s distinguish between different degrees of impairment?

OR

Does s distinguish between congenital and adventitious blindness?

0 = BL1 (0 or 1)

1 = no

2 = yes, degrees

3 = yes, congenital, adventitous

4 = yes, both 2 & 3

9 = missing data

BL4 3 (e.g., glass eye) % = 93 K = .65	Does s mention child with this handicap now attending his/her school (in class, classes)? 1. no 2. yes, blind child, same school, not same class(es) 3. yes, partially sighted, same school, not same class 4. yes, blind child in same class(es) 5. yes, partially sighted, same classes 6. yes, other: combination of 2,3,4, & 5
BL5 % = 96 K = .84	Does s mention blind relative? 1. no 2. yes 3. partially sighted
BL8 Code for partial impairment % = 93 K = .88	Does s refer to T.V. drama and/or book about blindness, blind people? 1 = no (neither) 2 = yes, book 3 = yes, T.V. Drama 4 = yes, both
BL62 Specific % = 100 K = 1	Does s mention looking at the sun as possible cause of blindness? 1 = no 2 = yes 6 = yes, understands this is rare, unusual and improbable

BL63 % = 100 K = 1	Does s mention injury to optic nerve, cornea, or other specific part of eye as cause of blindness? 1 = no 2 = yes 3 = yes, but in impossible, peculiar way
BL81 % = 100 K = 1	Does s mention watching television as a possible cause of blindness? (or other such activities as reading or studying) 1 = no 2 = yes 6 = yes, but in a qualified, sophisticated way
BL11 Broad - anything psychological % = 100 K = 1	Does s mention psychological factors as cause of blindness? 1 = no 2 = yes (unrealistic) 6 = yes (possible - hysteria)
BL12 Broad % = 100 K = 1	Does s mention volition effort as a possible cause of blindness? 1 = no 2 = yes 6 = yes, but possible, realistic

BL13

Broad

% = 96

K = .61

BL14

Broad - anything in this area not
codable elsewhere

% = 96

K = .92

BL15

Specific

S says: "born that way"
"born blind"
"at birth"
"born not being able to see"

% = .82

K = .63

Does s mention post-natal physical neglect as cause of blindness?

1 = no
2 = yes, e.g., inadequate medical care
7 = yes, but in impossible, peculiar way

Does s mention birth defect/congenital as cause of blindness?

1 = no
2 = yes, e.g., use of drugs by mother, heredity, malformation such as missing specific part of eye, maternal disease, or born without eyes
7 = yes, but in impossible,peculiar way

Does s mention "born that way" as a possible cause of blindness?

1 = no
2 = yes

BL16

Broad - anything in this area not codable elsewhere

% = 100

K = 1

BL17

2 = vague, general and broad

3 = specific

If both 2 & 3, code 3

% = 96

K = .91

BL18

Interpret broadly

2 = catch all for vague responses

3 = "something happened to" something some object

% = 89

K = .65

Does s mention natal factor as a possible cause of blindness?

1 = no
2 = yes, e.g., oxygen deprivation, silver nitrate not given
7 = yes, but in impossible, peculiar way

Does s mention illness as possible cause of blindness?

1 = no
2 = yes (vague)
3 = specifically (glaucoma, "Neurological disease", deterioration)
7 = impossible illness (e.g., a cold)

Does s say cause of blindness is "just happened" or "just got that way" and/or "something happened to / wrong with eyes"?

1 = no (neither)
2 = yes (just happened/got that way)
3 = yes (something happened/wrong with eyes)
4 = yes (both)

BL19

Specific

% = 100

K = 1

BL20

% = 96

K = .92

BL21

Intrepret broadly

% = 93

K = .81

Does s mention physical trauma to eyes as cause of blindness? (includes setting object in eye)

1 = no
2 = yes (acid in eye, poke in the eye)
7 = yes, but in impossible, peculiar way

Does s mention physical trauma as possible cause of blindness, not specific to the eye?

1 = no
2 = yes, war injury, car accident or other type of accident
7 = yes, but in impossible, peculiar way

Does s mention other causes as cause for blindness?

1 = no
2 = yes (e.g., possible tumor)
3 = yes (unrealistic; no eyes)

BL22

% = 86

K = .81

BL23

Broad

"yes" - become able to see vs.
learn to cope with it, use braille

you can seldom be cured, but you can
develop ways to live with blindness

% = 100

K = 1

Is s's view of prognosis/for curing for blindness:

1. blind stay blind
2. realsitic - usually stay blind
3. overly optomistic (e.g., yes)
4. says do not know/ no answer

Does s explicitly distinguish between cure and amelioration, adaptation with regard to blindness?

1 = no
2 = yes - at least vision can be augmented

BL65

Specific

BL82

Specific

BL25

Specific - e.g., gadgets that beep

Does s mention the use of canes or "sticks" and/or seeing eye dogs (whether by that term or not)?

1 = no (Neither)
2 = yes (cane)
3 = yes (guide dog)
4 = yes (both)

Does s refer to braille whether by that term or not (e.g., reading by feeling bumps, etc.)?

1 = no
2 = yes
7 = yes, but thinks the deaf or otherwise
totally misunderstand it

Does s mention any other coping device or technique besides the usual, braille, cane, dog?

1 = no
2 = yes

BL27

Specific

Mentions doctors, hospitals, etc.

% = 100

K = 1

In discussing cure for blindness does s mention medical intervention?

1 = no
2 = yes, operations (e.g., the doctor fixes it)
3 = yes, completely unrealistic (pills)

BL26

Broad - anything in this area not codable elsewhere

% = 93

K = .80

In discussing cure for blindness does s mention other totally unrealistic cures?

1 = no
2 = yes (spontaneous recovery - miracle)
3 = yes (miracle)
4 = yes (both 2 & 3)

BL24

Specific

% = 93

K = .88

In discussing cure for blindness does s identify that a cure will be found?

1 = no (neither)
2 = yes

BL28

when in doubt code yes

yes, if report only is available and is "yes"

% = 96

K = .93

What is s's prediction about marriage?

1 = no, I don't think so, probably not
2 = yes, often do, can if they want to, maybe
5 = don't know

BL1 = 0 or 1

BL29 % = 86 K = .79	What is s's actual prediction about children? 1 = no, probably not, I don't think so 2 = yes, probably, often, maybe, if they want to 5 = do not know
BL 60 % = 100 K = 1	Does s regard blindness as having a physical object over the eyes and/or the absence of eyes? 1 = no (neither) 2 = yes (absence of eyes) 3 = yes (physical object)
BL61 % = 100 K = 1	Does s regard blindness as mainly condition of the aged and/or assimilates the idea to the very early stages of life? 1 = no (neither) 2 = yes (aged) 3 = yes (early stages) 4 = yes (both)
BL30 Interpret broadly % = 82 K = .65	Does s say that it would be strange, wierd, odd to be blind, or it would be hard, no fun? 1 = no 2 = yes
BL31 Specific % = 89 K = .65	Does s say that it would be scary and/or frustrating/anger provoking to be blind? 1 = no (neither) 2 = yes (scary) 3 = yes (frustration/anger) 4 = yes (both)

BL33

Specific - not abstractions

% = 89

K = .75

Does s describe blindness in terms of compensation via other senses (e.g., "you'd have to feel your way around; rely on hearing")?

1 = no, neither
2 = yes, compensation via senses

BL34

Specific

% = 96

K = .77

Does s refer to triumphing over or transcending blindness and/or suggest that blindness puts one in touch with the essential things/values in life?

1 = no, neither
2 = yes, triumph/transcension)

BL35

% = 86

K =.72

In discussing blindness, does s mention the process of learning to live with blindness, psychological adjustment (not concrete practical)?

1 = no
2 = yes
3 = psychological adjustment of the parents of
    a blind child
4 = both 2 & 3

BL 38

Do not code on basis of story

Interpersonal only - not dependent on objects

% = 86

K = .67

Does s refer to dependency or helping relationships regarding blindness?

1 = no
2 = dependency
3 = helping
4 = both 2 & 3

BL43

Teasing- specific

% = 86

K = .61

With regard to teasing of blind people, does s:

1. deplore teasing, ridicule, say it shouldn't happen, is mean, reject it outright
2. say it is natural, may not be nice but will happen, people are like that, they tolerate it or approve
8. not codable

BL44

Specific to sports

% = 100

K = 1

Does s mention playing, not being able to play sports in relation to blindness?

1 = no, doesn't mention
2 = says could not
3 = says could with great admiration/enthusiasm for handicapped athletes
4 = couldn't

BL46

Broad - very general

% = 93

K = .81

Does s portray the blind as emotionally fragile, very vulnerable, or more emotionally sensitive than other people, more likely to have their feelings hurt, etc?

1 = no
2 = yes

BL64

Specific

% = 93

K = .72

Does s use world of darkness imagery, believe that everything looks black to people who are blind, etc?

1 = no
2 = yes

BL48 Broad % = 100 K = 1	Does s seem to be afraid of blind people and/or show pity for blind people? 1 = no, neither 2 = yes, fear 3 = yes, pity 4 = yes, both
BL50 Specific % = 93 K = .59	Does s describe, suggest feelings of awkwardness, uncertainty about what to do, such discomfort in relation to blind people? (felt nervous, uneasy, embarrassment) 1 = no 2 = yes
BL51 % = 96 K = .60	Does s seem cynical when he/she talks about blind people? (i.e., does he say they ought to shape up, try harder than they do, etc.) 1 = no 2 = yes
BL54 Broad - anything good at all Has anything good to say about it, can make you more sensitive, musical, or artistic % = 89 K = .61	Does s express any positive benefits about blindness? 1 = no 2 = yes, curious, might be interesting, enjoy something more 3 = envious, transcendent state, etc.

BL55

Broad

anything to the effect that they would not like this handicap

% = 82

K = .60

Does s express any negative feelings about blindness?

1 = no
2 = yes, fairly mild. I wouldn't like it, not fun, hard, kind of scary, wierd, etc.
yes, strongly negative-fate worse than death, horrible, terrible

---

DEAF

DF1

note: not a scale

when in doubt whether to code "4", code "4"

% = 90

K = .73

Awareness: Does s

0 = blank on topic, have nothing to say, provide only total irrelevancies
1 = actively assert that everyone can hear, say nothing more
2 = discuss topic in terms of distorting idea, mistake condition for something else
3 = entertain the idea, provide some content, agree there might be such people although not sure there really are
4 = show awareness that there really are such people, (e.g., use word deaf , mention information showing correct identification)
9 = missing data

DF3

% = 82

K = .71

Does s distinguish between different degrees of impairment? Does s distinguish between congenital and adventitious?

1 = no
2 = yes, degrees
3 = yes, congenital and adventitious
4 = yes, both 2 & 3

DF4

% = 93

K = .72

Does s mention deaf or hearing impaired child now attending same school/class? (work with)

1.. no
2. deaf, same school not same classes
3. yes, hearing impaired, same school not class
4. yes, deaf child in class
5. yes, hearing impaired, same class
6. other, combination of 2,3,4,& 5

DF5 % = 100 K = 1	Does s mention deaf relative? 1 = no 2 = yes, deaf 3 = yes, hearing impaired
DF8 % = 82 K = .65	Does s refer to T.V. drama and/or book about deafness, and deaf people? 1 = no (neither) 2 = yes (book) 3 = yes (T.V. drama) 4 = yes (both)
DF62 Specific % = 93 K = .70	Does s mention noise as a cause of deafness? 1 = no 2 = yes 6 = yes, but understands rare, unusual, only likely to impair
DF 63 Specific to ear drum, whether by that name or not % = 100 K = 1	Does s mention ear drum injury as cause of deafness? 1 = no 2 = yes * 7 = yes, but in impossible, peculiar way *note: not necessarily by name e.g., "bag could pop"

DF12 Broad % = 100 K = 1	Does s mention volition effort as a possible cause of deafness? 1 = no 2 = yes 6 = yes, rare
DF13 Broad % = 100 K = 1	Does s mention post-natal physical neglect as cause of deafness? 1 = no 2 = yes, e.g., not taking care of ears, not attending to ear infections
DF14 Broad % = 100 K = 1	Does s mention birth defect/congenital as cause? Heredity e.g., malformation, missing part, drugs taken by mother, maternal disease. 1 = no 2 = yes 7 = yes, but in impossible, peculiar way
DF15 Specific % = 96 K = .89	Does s mention "born that way" as a possible cause of deafness? 1 = no 2 = yes

DF16

Broad

In the event that happens around time of birth, but not "born that way"

% = 100

K = 1

Does s mention natal factor as a possible cause of deafness?

1 = no
2 = yes
3 = yes, but in some impossible, peculiar way

DF17

% = 93

K = .84

Does s mention illness as a possible cause of deafness?

1 = no
2 = yes (vague e.g., "get sick", "illness"
3 = specifically (bone disease, nerve degeneration)

DF18

catch all for vague responses

% = 100

K = 1

Does s attribute cause of deafness to "something happened to/wrong with ear"and/or say it "just happened/got that way"?

1 = no, neither
2 = yes, just happened that way
3 = yes, something happened/wrong with ear
4 = yes, both

DF19

Specific

% = 86

K = .69

Does s mention physical trauma to ear as cause of deafness? (includes foreign objects in ear)

1 = no
2 = yes, poke in ear, blow to ear
7 = yes, but in impossible, peculiar way

DF20 % = 93 K = .81	Does s mention psysical trauma as possible cause of deafness, not specific to ear? 1 = no 2 = yes, e.g., car accident, fall from tree 7 = yes, but in impossible, peculiar way
DF22 % = 75 K = .68	Is s's view of prognosis (in becoming able to hear) for deafness: 1. overly pessimistic (does not become able to hear) 2. realistic 3. overly optimistic 4. don't know/no answer
DF23 Broad getting over it totally vs. becoming able to cope, hear a little, learn to live with it % = 89 K = .63	Does s explicitly distinguish between cure and amelioration of, adaptation to deafness? 1 = no 2 = yes
DF65 Specific, but not necessarily by name % = 96 K = .94	Does s mention a hearing aid and/or sign language? 1 = no 2 = yes, aid 3 = yes, sign language 4 = both

DF25 Concrete and specific techniques and gadgets, e.g., lip reading % = 96 K = .92	Does s mention any other coping devices or techniques besides the usual hearing aid or sign language? 1 = no 2 = yes
DF27 Specific - doctors, hospitals, operations % = 96 K = .91	In discussing cure, does s mention medical intervention (for deafness)? 1 = no 2 = yes (unqualified) 7 = yes, but in impossible, peculiar way
DF 26 Specific % = 96 K = .83	In discussing cure for deafness does s mention totally unrealistic cures and/or just getting better? 1 = no 2 = yes (just became able to hear) 3 = yes (reversal cure or others) 4 = yes (both 2 & 3)
DF24 Specific Unless cure is found If a " " " When " " " Until " " " % = 96 K = .68	In discussing cure for deadness does s refer to idea that a cure will be found? 1 = no (neither) 2 = yes

DF28

% = 93

K = .88

What is s's prediction about marriage?

1 = no, I don't think so, probably not
2 = yes, often do, can if they want to, maybe
5 = don't know

DF29

% = 89

K = .83

What is s's actual prediction about children?

1 = no, probably not, I don't think so
2 = yes, probably, often, maybe if they want to, etc.

DF60

Specific

% = 100

K = 1

Does s assimilate the idea of not believable being able to hear, deafness to physical objects over the ears, substances near the ears, etc. and/or equates with the absence of ears?

1 = no
2 = yes, physical object
3 = absence of ears
4 = yes, both

DF 61

Specific

% = 96

K = .60

Does s regard deafness as mainly condition of the aged and/or assimilate the idea to the very early stages of life?

1 = no
2 = yes, aged
3 = yes, early stages
4 = yes, both

DF90

Very specific

% = 96

K = .82

Does s discuss with regard to deafness feeling vibrations, sensitivity to vibrations, etc?

1 = no
2 = yes

DF30 Interpret broadly % = 86 K = .73	Does s say that it would be strange, wierd, odd to be deaf or hard of hearing? 1 = no 2 = yes
DF31 Interpret specifically % = 96 K = .77	Does s say that it would be frustrating, make one angry, etc. to be deaf and/or scary? 1 = no (neither) 2 = yes (scary) 3 = yes (frustrating) 4 = yes (both)
DF32 Specific % = 96 K = .75	Does s discuss deaf people as vulnerable to physical injury, apt to be hurt in accidents, traffic accidents, etc. 1 = no 2 = yes
DF33 Specific % = 86 K = .62	Describes development of compensating senses (e.g., see better, etc.) 1 = no 2 = yes

DF34 Specific % = 100 K = 1	Does s suggest that deafness would put one in touch with the important things in life, essentials, values, etc. refer to triumphing/ transcending deafness? 1 = no 2 = yes
DF35 Broad - any mental adjustment % = 89 K = .69	In discussing deafness, does s mention the psychological process of learning to live with deafness? 1 = no 2 = yes, of the deaf person 3 = yes, of parental 4 = yes, both 2 & 3
DF37 Broad % = 82 K = .60	With regard to deafness, does s raise any stigma-related issues other than teasing & ridicule? (jobs, people think you're different, social rejection & exclusion) 1 = no 2 = yes
DF40 Broad % = 100 K = 1	Does s say outright that deaf people are badly treated by society; people should treat deaf people better; people need to change their attitudes; people display certain attitudes, behaviors to which s objects, etc? 1 = no 2 = yes

DF42

% = 86

K = .77

Does s portray ridicule, teasing, etc. of deaf people as

1. nonexistent
2. occasional, a possibility, sometimes
3. frequent
4. attributes only to children younger than self

DF43

% = 96

K =.86

With regard to teasing, ridicule of deaf people, does s

1. reject teasing, disapprove
2. tolerate it, say it is natural, otherwise accept it
8. not codable

DF44

% = 100

K = 1

Does s mention playing, not be able to play sports in relation to deafness?

1 = no
2 = yes, still could
3 = yes, could with great admiration/enthusiasm for handicapped athletes

4 = could not, limiting

DF45

Specific

% = 100

K = 1

Does s exagerate the limitations imposed by deafness? (e.g., you wouldn't be able to cross the street alone or couldn't go anywhere, do anything)

1 = no
2 = yes

DF91 Specific % = 86 K = .71	Does s seem to understand, be aware that deaf people have any speech-related difficulty? (That communication problems are not just receptive? 1 = no 2 = yes
DF93 % = 93 K = .82	Does s mention or seem familiar with Sesame Street? 1 = no 2 = yes 3 = yes, spontaneous mention of Linda 4 = yes, prompted mention of Linda
DF50 % = 100 K = 1	Does s describe feelings of awkwardness, uncertainty, nervous, embarrassment about what to do, such discomfort in relation to deaf people? 1 = no 2 = yes
DF51 % = 93 K = .59	Does s seem moralistic when he/she talks about deaf people? (i.e., does s say they ought to shape up, try harder than they do. etc.) 1 = no 2 = yes

DF53

% = 96

K = .84

Does s say that the deaf are like everyone else, except they cannot hear and/or does s deny the extent to which deafness imposes limitations on deaf people, talk as if it doesn't really impose any difficulty?

1 = no (neither)
2 = yes (like everyone else but cannot hear)
3 = yes (denial)
4 = yes (both)

OR1 % = 90 K = .62	Awareness: Does s 0 = blank on topic, have nothing to say, provide only total irrelevancies 1 = actively assert that everyone can say nothing more 2 = discuss topic in terms of distorting idea, mistake condition for something else (broken legs, broken feet, think of it as temporary condition) 2 = entertain the idea, provide some content, agree there might be such people although not sure there really are 2 = show awareness that there really are such people, (e.g., use word, mention information showing correct identification (when in doubt as to whether or not to code "4", do so) 9 = missing data
OR4 % = 100 K = 1	Does s mention child with this handicap (ortho) now attending his/her class or school? 1 = no 2 = yes, school not class 4 = yes, same class
OR5 % = 97 K = .93	Does s mention ortho disabled relative? 1 = no 2 = yes

OR6 % = 80 K = .93	Does s mention a friend (peer) known fairly well who is orthopedically handicapped or anyone orthopedically disabled he/she encounters and interacts with? 1 = no 2 = yes
OR63 % = 100 K = 1	Does s mention spinal injury, back injury as a cause of orthopedic handicaps? 1 = no 2 = yes 7 = yes, but in impossible, peculiar way
OR101 % = 100 K = 1	Does s give any impossible causes, other than broken limbs of orthopedic disabilities (i.e., "walking too much...") 1 = no 2 = yes
OR66 % = 100 K = 1	Does s mention child abuse as cause of orthopedic handicaps? 1 = no 2 = yes

OR11 % = 100 K = 1	Does s mention any psychological causes of orthopedic handicaps? (e.g., conversion hysteria) 1 = no 2 = yes 6 = yes, possible, but rare
OR12 % = 100 K = 1	Does s say that volition can cause ortho disability? (Not trying to walk) 1 = no 2 = yes
OR13 % = 100 K = 1	Does s mention postnatal neglect as a cause of orthopedic handicaps? (Not taking care of yourself, no exercise.) 1 = no 2 = yes 7 = yes, but in impossible, peculiar way
OR14 % = 97 K = .91	Does s mention birth defect/congenital as a cause of orthopedic handicaps? 1 = no 2 = yes
OR15 % = 100 K = 1	Does s give "born that way", "born crippled", etc. as a cause of orthopedic handicaps? 1 = no 2 = yes

OR16
% = 100
K = 1

Does s mention any post or peri natal factors as causes of orthopedic handicaps?

1 = no
2 = yes

OR17
% = 90
K = .80

Does s mention illness of the handicapped person as a cause of orthopedic handicaps?

1 = no
2 = yes (vague)
3 = yes (specifically)

OR19
% = 93
K = .81

Does s mention psysical trauma to the legs (etc) as cause of orthopedic handicaps?

1 = no
2 = yes
7 = yes, but in impossible, peculiar way

OR20
% = 90
K = .80

Does s mention nonspecific physical trauma as cause of orthopedic handicaps? (e.g., "an accident")

1 = no
2 = yes (e.g., brain damage, neurological damage)
7 = yes, but in impossible, peculiar way

OR22
% = 80
K = .72

Is s's view of curability for orthopedically handicapped?

1. overly pessimistic
2. realistic
3. overly optomistic
4. don't know

OR23

% = 90

K = .67

Does s distinguish between outright cure and amelioration of, adaptation to orthopedic handicaps?

1 = no
2 = yes

OR65

% = 93

K =.78

Is s aware of, does he mention, canes, walkers, motorized wheelchairs?

1 = no
2 = yes

OR25

% = 100

K = 1

Does s mention any other ortho coping devices?

1 = no
2 = yes
7 = yes, very concrete

OR27

% = 93

K = .83

Does s mention intervention in discussing cures for orthopedic handicaps?

1 = no
2 = yes
7 = yes, but in impossible, peculiar way

OR24

% = 100

K = 1

Does s refer to the idea that a cure will be found for orthopedic handicaps?

1 = no
2 = yes, cure will be found

OR28

% = 90

K = .82

What is s's prediction about marriage?

2 = yes, often do, can if they want to, maybe
1 = no, I don't think so, probably not
5 = don't know

OR29

% = 87

K = .79

What is s's actual prediction about having children?

1 = no, I don't think so, probably not
2 = yes, probably, often do, maybe if they want to, etc.
5 = don't know

OR60

% = 93

K = .75

Does s seem to equate orthopedic disability with the absence of legs? (i.e.,"They have no legs".)

1 = no
2 = yes, no legs
3 = yes, temporary
4 = yes, both

OR100

% = 83

K = .67

Does s mention amputation or absence of limb?

1 = no
2 = yes, amputation
3 = yes, both

OR30

% = 87

K = .75

Broad

Does s say that it would be strange, wierd, odd to be orthopedically handicapped?

1 = no (neither)
2 = yes (strange)
3 = yes (hard, no fun)
4 = yes (both)

OR31

% = 93

K = .75

Specific

Does s say that it would be scary to be orthopedically handicapped and/or frustrating/anger provoking?

1 = no (neither)
2 = yes (scary)
3 = yes (frustration/anger)
4 = yes (both)

OR32

% = 90

K = .81

Does s portray orthopedically handicapped people as vulnerable to physical injury accidents -- apt to be hit by cars, fall down etc?

1 = no
2 = yes

OR34

% = 100

K = 1

Does s mention triumphing over, transcending orthopedic handicaps or suggest that it puts one in touch with the essential things/values in life?

1 = no (neither)
2 = yes (truimph/transcension)

OR35

% = 83

K = .59

Does s mention anything about psychological adjustment to orthopedic handicaps, learning to live with these handicaps, etc. (NOT concrete adjustment)

1 = no
2 = yes
3 = yes, discusses parental adjustment
4 = yes, 2 & 3

OR37

% = 90

K = .74

In discussing orthopedic handicaps, does s raise any stigma-related issues other than teasing? (e.g., job difficulty because of prejudice, people think you're different, trouble finding girlfriend or spouse, social rejection, exclusion)

1 = no
2 = yes, dependency

OR38

% = 87

K = .63

Does s say that ortho disabled people are dependent on other people, need a lot of help?

1 = no
2 = yes, dependency
3 = yes, helping
4 = yes, both

OR40

% = 97

K = .86

Does s say that society, people, peer groups, treat orthopedically handicapped people badly; need to change attitudes, behaviors; etc?

1 = no
2 = yes

OR42

% = 90

K = .74

With regard to the issue of teasing, ridicule of orthopedically handicapped people, does s say:

1. doesn't, wouldn't happen, never heard of it
2. might, sometimes, occasionally
3. is, would be a problem, frequent
4. attributes only to children

OR44

% = 93

K = .70

Does s mention playing, not being able to play sports in relation to orthopedic handicaps?

1 = no
2 = yes, says could
3 = yes, says could, with great admiration, enthusiasm for handicapped athletes
4 = yes, says could not, limiting

OR45

% = 100

K = 1

Does s exaggerate the limitations imposed by orthopedic handicaps? (e.g., to suppose one could do nothing)

1 = no
2 = yes

OR64

% = 100

K = 1

Does s describe the orthopedically handicapped as "sitting", "just sitting", not doing much of anything, or something similar?

1 = no
2 = yes

OR49 % = 93 K = .61	Does s mention wanting to avoid offering unwanted help, fear of intruding, avoiding oversolicitousness, etc. toward orthopedically handicapped people? 1 = no 2 = yes, don't offer unwanted help 3 = yes, condescends 4 = yes, both
OR50 % = 97 (K impossible to calculate)	Does s describe feelings of awkwardness, not knowing what to do, such discomfort in relation to orthopedically handicapped people? 1 = no 2 = yes
OR51 % = 97 K [illegible] .70	Does s seem cynical when he/she talks about the orthopedically disabled person(s)? (i.e., does he/she say they ought to shape up, or try harder than they do, etc) 1 = no 2 = yes
OR52 % = 93 K = .61	Does seem to have a negative evaluation of the personal worth of orthopedically handicapped people? 1 = no 2 = yes 4 = both

OR55

% = 80

K = .60

Does s express any negative feelings about orthopedically handicaps?

1 = no
2 = yes, fairly mild. I would want to... not fun, hard, scary, wierd, tough
yes, strongly. Wouldn't want to go on living, horrible, ugh reactions

---

MR1

% = 97

K = .93

Awareness: Does s

0 = blank on topic, have nothing to say, provide only total irrelevancies
1 = actively assert that everyone can----, say nothing more
2 = discuss topic in terms of distorting idea, mistake condition for something else
3 = entertain the idea, provide some content, agree there might be such people although not sure there really are
4 = show awareness that there really are such people, (e.g. use word, mention information showing correct identification) (When in doubt as to whether or not to code "4", do so)
9 = missing data

MR3

% = 87

K = .63

Does s distinguish between different degrees of impairment? Does s distinguish between congenital and adventitious?

1 = no
2 = yes, degrees
3 = yes, congenital, adventitious
4 = yes, both 2 & 3

MR4

% = 87

K = .58

Does s mention child with this (M.R.) handicap attending his/her school now

1 = no
2 = yes, special class
4 = yes, same class

MR5 % = 97 (K impossible to calculate)	Does s mention M.R. relative? 1 = no 2 = yes
MR6 % = 97 K = .93	Does s mention friend or anyone M.R. whom s encounters and interacts with or had been in same class? 1 = no 2 = yes
MR7 % = 90 K = .62	Does s mention any M.R. person who lives nearby, whom s encounters occasionally, but has or had no contact with or had been in same school but with no interaction? 1 = no 2 = yes
MR8 % = 97 K = .91	Does s mention a TV drama about a M.R. person and/or book about M.R. or M.R. person? 1 = no (neither) 2 = yes (TV drama) 3 = yes (book) 4 = yes (both)
MR10 % = 100 K = 1	Is there some doubt as to s's accuracy in identifying someone as M.R.? 1 = no 2 = yes 8 = identifies no one

MR116

5 = 97

K = .83

Does s give any description at all of cultural-familial retardation? (Code anything that might be interpreted this way)

1 = no
2 = yes

MR69

% = 93

K = .88

Does s seem to think of M.R. as an organic condition, as possibly cultural-familial, or either, both?

1 = organic only
2 = cultural-familial only
3 = both

MR66

% = 100

K = 1

Does s mention child abuse (physical) as a cause of M.R.?

1 = no
2 = yes

MR11

% = 100

K = 1

Does s give any psychological-emotional causes of M.R.?

1 = no
2 = yes (unrealistic)
6 = yes (possible, but rare)

MR12

% = 100

K = 1

Does s mention volition, effort as cause of M.R.?

1 = no
2 = yes
6 = yes, unusual

MR13
% = 100
K = 1

Does s mention post natal physical neglect as a cause of M.R.?

1 = no
2 = yes

MR14
% = 100
K = 1

Does s mention heredity, genetics, runs in families as cause of M.R.?

1 = no
2 = yes
7 = yes, but in impossible way

MR15
% = 100
K = 1

Does s say one may be born M.R., born that way at birth?

1 = no
2 = yes

MR16
% = 97
K = .86

Does s mention any post perinatal factors as causing M.R.? e.g. oxygen deprivation, birth accidents

1 = no
2 = yes
7 = yes, but in impossible, peculiar way

MR17
% = 100
K = 1

Does s mention illness (of M.R. person) as a cause of M.R.?

1 = no
2 = yes (vaguely)
3 = yes (specifically, e.g. measels, encephelitis)

MR18

% = 97

K = .89

Does s say that M.R. might be caused by something happening to the brain and/or it just happens or just got that way?

1 = no (neither)
2 = yes (just got retarded, it just happened, something happened)
3 = yes (something wrong with the mind, brain, thinking, or with something)
4 = yes (both)

MR19

% = 100

K = 1

Does s say that brain or head is involved in M.R.? (e.g. brain damage, defect, head injured, brain not working right)

1 = no
2 = yes
7 = yes, impossible

MR20

% = 100

K = 1

Does s mention as cause of M.R. injury of external origin (causing organic damage)? (e.g. accidents, bumps on head, falls, forceps, etc.) (NOT: scarred by falling, emotionally traumatized by event)

1 = no
2 = yes, general
3 = yes, head, brain, specific
7 = yes, impossible

MR21

% = 100

K = 1

Does s mention any other causes of M.R.?

1 = no
2 = yes (realistic)
3 = yes (unrealistic)

MR23 % = 90 K = .74 Broad	Does s explicitly distinguish between outright cure of and amelioration or, adaptation to M.R.? 1 = no 2 = yes
MR70 % = 97 K = .86	Does s mention institutions, residences, halfway houses, etc. for the retarded? (expresses awareness that they are institutions--Do not code if s is clearly describing one, but supposes 10 M.R. people to have been adopted, etc. . . .) 1 = no 2 = yes
MR25 % = 93 K = .83	Does s mention any other coping device/technique for M.R.? 1 = no 2 = yes
MR27 % = 97 K = .80	Does s mention medical intervention as a cure for M.R.? 1 = no 2 = yes (unrealistic) 6 = yes (realistic, possible)

MR26

% = 100

K = 1

Does s mention any other totally unrealistic cures for M.R.?

1 = no
2 = yes (spontaneous recovery)
3 = yes (reversal, cure or other)
4 = yes (both 2 & 3)

MR24

% = 93

K = .61

Does s refer to the idea that a cure will be found for M.R.?

1 = no
2 = yes (cure will be found)

MR28

% = 100

K = 1

What is s's prediction about marriage?

0 = Not applicable
1 = no, I don't think so, probably not
2 = yes, they often do, can if they want to, maybe
5 = Don't know

MR29

% = 93

K = .89

What is s's actual prediction about children?

0 = Not applicable
1 = no, probably not, I don't think so
2 = yes, probably, often, maybe, if they want to
5 = don't know

MR30

% = 93

K = .88

Broad

Does s say that it would be strange, weird, odd to be M.R. and/or hard, no fun?

1 = no
2 = yes (strange)
3 = yes (hard, no fun)
4 = yes (both)

MR31
% = 100
K = 1
Specific

Does s say that it would be frustrating, make one angry to be M.R. and/or scary?

1 = no (neither)
2 = yes (scary)
3 = yes (frustrating/angry)
4 = yes (both)

MR32
% = 97
K = .94

Does s describe M.R. people as vulnerable to physical injury, accidents?

1 = no
2 = yes

MR34
% = 100
K = 1

Does s say or suggest that to be M.R. puts one in touch with the essential values, what's really important in life or refer to triumphing/transcending M.R.?

1 = no (neither)
2 = yes

MR35
% = 90
K =.84
Broad

Does s mention anything about psychological adjustments to M.R. or M.R. people?

1 = no
2 = yes, M.R.
3 = yes, psychological adjustment of parents of M.R. child
4 = yes, both 2 & 3

MR37

% = 77

K = .65

In discussing M.R., does s raise any negative social response issues other than teasing, ridicule? (e.g. job discrimination, people think you're different, social rejection, exclusion, etc.) not fitting in, not making contact, ignoring, acting mean

1 = no
2 = yes

MR38

% = 80

K = .69

Does s refer to dependency and/or helping relationships with regard to M.R.?

1 = no
2 = yes, dependency
3 = yes, helping
4 = yes, both 2 & 3

MR39

% = 83

K = .75

Does s describe the M.R. as acting strange, different from other people, weird, peculiar, odd, funny? (Describe M.R. people as doing specific odd things, not fitting in with peers and/or looking different?)

1 = no
2 = yes, act
3 = yes, look
4 = yes, both 2 & 3

MR40

% = 90

K = .83

Does s say or suggest that society, people, peer group, etc. treat the M.R. badly; need to change attitudes, behaviors; should not do things they now do, etc?

1 = no
2 = yes

MR41

% = 100

K = 1

Does s describe M.R. people as vulnerable to physical abuse by other people--being mugged, robbed, kicked or pushed around, and/or social exploitation, e.g. cheating?

1 = no, neither
2 = yes, physical
3 = yes, social
4 = yes, both 2 & 3

MR43

% = 80

K = .73

With regard to teasing, ridicule of M.R. people, does s:

1. deplore it, say it should not happen, is outright bad
2. accept it, say it's natural, tolerate it, may not be very nice but just happens, etc.
8. not codable

MR44

% = 93

K =.87

Does s mention playing, not being able to play sports in relation to M.R.?

1 = no
2 = yes, still could
3 = yes, could with great admiration and enthusiasm for M.R. athlete
4 = yes, couldn't, limiting

MR45

% = 100

K = 1

Does s exaggerate the limitations imposed by M.R.? (To suppose one could never work, learn anything, talk, etc.)

1 = no
2 = yes

MR46 % = 87 K = .80	Does s describe M.R. person or people as emotionally fragile, more sensitive than others, likely to have their feelings hurt? 1 = no 2 = yes
MR64 % = 93 K = .87	Does s describe M.R. people as generally friendly, outgoing, cheerful? 1 = no 2 = yes
MR117 % = 100 K = 1	Does s say or suggest M.R. people are oblivious to teasing, can't understand it anyway? 1 = no 2 = yes
MR118 % = 100 K = 1	Does s regard parents of M.R. child as "handicapped"? 1 = no 2 = yes
MR67 % = 100 K = 1	Does s heavily emphasize the issues and problems of defining M.R.? (Not: just say he doesn't know, is unsure, but assert that it really is difficult for anyone, complex, etc.) 1 = no 2 = yes

MR68

% = 83

K = .75

Does s discuss:

1. severely, profoundly, retarded people only (e.g. institutionalized, no speech)
2. moderately and mildly retarded people, retardation only
3. both

MR112

% = 97

K = .94

Does s convey the image of all, most M.R. people as typically Down's syndrome people? e.g. that M.R. people all look alike, etc.

1 = no
2 = yes

MR113

% = 97

K = .94

Does s confuse general retardation with specific learning disability and/or speech disorder?

1 = no, neither
2 = yes, L.D.
3 = yes, speech disorder
4 = yes, both 2 & 3

MR110

% = 77

K = .65

Does s describe the M.R. as talking different from other people, having speech difficulties, sounding different?

1 = no
2 = yes

MR111

% = 93

K = .88

Does s describe any or all M.R. people as physically awkward, clumsy, have odd gait, etc.?

1 = no
2 = yes

MR114

% = 90

K = .85

Does s take phrases like "retarded" and "slow" literally to mean M.R. people learn exactly the same as everyone else (and learn as much) but take longer to do things than do other people and/or does s mention the concept of IQ or mental age when discussing M.R. (not just "acts babyish, seems younger" etc.)?

1 = no, neither
2 = yes, IQ/MA
3 = yes, just slower
4 = yes, both 2 & 3

MR115

% = 83

K = .73

Does s seem to be aware of M.R. people having a hard time coping with the world, "you can't get along," otherwise experiencing a general impairment to adaptive behavior, (Not: just specific trouble with learning the alphabet, taking a bus, etc.) and/or does s discuss academic, learning, cognitive difficulties of the M.R., (e.g. he doesn't know his alphabet, takes longer to learn)?

1= no, niether
2 = yes, cognitive
3 = yes, adaptive behavior
4 = yes, both 2 & 3

MR47

% = 87

K = .81

Does s seem to idealize M.R. people, to think that they are better than other people, that they are all very nice, etc. and/or speak as an advocate for M.R. people?

1 = no, neither
2 = yes, advocate
3 = yes, idealization
4 = yes, both 2 & 3

MR48
% = 97
K = .95

Does s seem to be afraid of M.R. people and/or show pity?

1 = no, neither
2 = yes, fear
3 =yes, pity
4 = yes, both 2 & 3

MR49
% = 93
K = .88

Does s mention avoiding offering unwanted help, oversolicitousness, fear of intruding, etc. toward M.R. people?

1 = no, neither
2 = yes, don't offer unwanted help
3 = yes, patronizes
4 = yes, both 2 & 3

MR50
% = 100
K = 1

Does s describe feelings of awkwardness, uncertainty about what to do, etc. in relation to M.R. people?

1 = no
2 = yes

MR51
% = 100
K = 1

Does s suggest that M.R. people may take advantage of their handicaps to gain special attention, to avoid work, or may otherwise use the handicap in a manipulative way, i.e. scynical?

1 = no
2 = yes

MR52
% = 87
K = .78

Does s seem to have a negative evaluation of the personal worth of M.R. people or express any strong negative feelings?
1 = no, neither
2 = yes, negative feelings
3 = yes, personal worth
4 = both 2 & 3

MR53

% = 93

K = .87

Does s deny the cognitive difficulties of the M.R. (e.g. M.R. people are just as smart as everyone else, it just takes them longer to learn things.) and/or say that M.R. people are "just like everyone else or they just learn more slowly"?

1 = no, neither
2 = yes, like everyone else
3 = yes, denial
4 = yes, both 2 & 3

MR54

% = 93

K = .87

Broad

Does s express positive aspects to being M.R.?

1 = no
2 = yes

MR119

% = 87

K = .78

Specific

Does s, anywhere, raise the issue of the personhood. status as human beings, of M.R. people?

1 = no
2 = yes, decides they are (says outright that "they're still people" Not "just like everyone else")
3 = yes, decides some are not

PS1

% = 93

K =.87

Awareness: Does s

0 = blank on topic, have nothing to say, provide only total irrelevancies
1 = actively assert that everyone can say nothing more
2 = discuss topic in terms of distorting idea, mistake condition for something else (e.g., M.R.
3 = entertain the idea, provide some content, agree there might be such people although not sure there really are
4 = show awareness that there really are such people, (e.g., use word, mention information showing correct identification) (When in doubt as to whether or not to code "4", do so)
9 = missing data

PS2

% = 93

K = .87

Does s say or suggest this handicap is an illness? (e.g., needs to go to doctor to get fixed up)

1 = no
2 = yes

PS3

% = 97

K = .95

Does s distinguish between different degrees of impairment? (Neurotic or psychotic) (How disturbed)

1 = no
2 = yes, degrees

PS4

% = 97

K =.95

Does s mention child with emotional disturbance attending his/her school now?

1 = no
2 = yes
4 = yes, same class

PS5 % = 93 K = .87	Does s mention a relative who is psychologically disturbed? 1 = no 2 = yes
PS6 % = 90 K = .83	Does s mention a friend who is psychologically disturbed or anyone whom s encounters and interacts with? 1 = no 2 = yes
PS7 % = 93 K = .87	Does s mention a psychologically disturbed person who lives nearby, whom s encounters occasionally, but has or had no contact with? 1 = no 2 = yes
PS8 % = 90 K = .83	Does s mention a T.V. drama about a psychologically disturbed person and or reading a book? 1 = no (neither) 2 = yes (book) 3 = yes (T.V. drama) 4 = yes (both)

PS9 % = 90 K = .82	Does s describe hearing about psychological disturbancies, disturbed from parents, friends, relatives, teachers, etc. and/or any other source of information about psychologically disturbances? 1 = no (neither) 2 = yes (discussion) 3 = yes (other source) 4 = yes (both)
PS69 % = 79 K = .70	Does s seem to think of psychological disturbances as: 1. organic only 2. nonorganic only 3. both
PS66 % = 100 K = 1	Does s mention child abuse as a cause of psychologically disturbances? (Actual child beating, not psychological) 1 = no 2 = yes
PS11 % = 93 K = .89	Does s discuss the way emotions are handled as a cause of psychological disturbance? 1 = no 2 = yes 7 = yes, but in some impossible, peculiar way

PS12
% = 100
K = 1

Does s explain the cause of Mental Illness in terms of: Volition, effort -- not trying to act, feel like others?

1 = no
2 = yes

PS13
% = 100
K = 1

Does s mention post-natal physical neglect as a cause of mental illness?

1 = no
2 = yes, not taking child to doctor

PS14
% = 100
K = 1

Does s explain cause of Mental Illness in terms of congenital/birth defect (heredity, genetic, drugs taken by mother, disease of mother)?

1 = no
2 = yes

PS15
% = 97
K = .95

Does s explain the cause of Mental Illness in terms of: Born that way, Innate?

1 = no
2 = yes

PS16
% = 100
K = 1

Does s explain cause of Mental Illness in terms of natal factor and/or birth trauma,etc.,

1 = no
2 = yes (natal factor)
3 = yes (birth trauma)

PS17
% = 100
K = 1

Does s mention illness as cause of psychological disturbances? (Being physically sick, as, high fever,.. NOT thinking of it as"mental illness")

1 = no
2 = yes (vague)
3 = yes (specifically)

PS18
% = 100
K = 1

Does s explain cause of mental illness, psychological disturbance as (vague) "something happened", went wrong?

1 = no
2 = yes, just happened e.g., something snapped
3 = yes, something happened to, went wrong with mind, brain, etc.
4 = yes, both

PS19
% = 100
K = 1

Does s explain cause of Mental Illness in terms of: Head injury, damage to the brain from dropping, etc.?

1 = no
2 = yes
7 = yes, in impossible, peculiar way

PS20
% = 100
K = 1

Does s explain cause of Mental Illness in terms of concrete physical trauma not specific to the head, e.g., "accidents", "falling"?

1 = no
2 = yes
6 = yes, rare

PS122
% = 97
K = .95

Does s implicate peer group in causation of psychological distrubances -- being unpopular, not fitting in, not getting along, having other children act mean, no friends?

1 = no
2 = yes

PS123
% = 97
K = .95

Does s refer to parental emotional maltreatment as cause of psychological disturbances? (parents mean to him; mother cold and selfish)

1 = no
2 = yes, early childhood specific
3 = yes, other

PS124
% = 97
K = .95

Does s provide as cause of psychological disturbances: emotional trauma? (Ever since the time she saw...; mother left when she was four and she never got over the shock...) Must refer to specific incident.

1 = no
2 = yes, early childhood specific
3 = yes, other

PS125
% = 90
K = .84

Does s say that psychological disturbances are, in effect, caused by not communicating with other people?

1 = no
2 = yes

PS126

% = 90

K = .84

Does s say that social conditions like poverty, unemployment, the high divorce rate, etc. cause psychological disturbances and/or does s mention stress, tension, pressure, stress of today's world, as a cause of psychological disturbance?

1 = no
2 = yes, social conditions
3 = yes, stress
4 = yes, both

PS127

% = 90

K = .83

Does s give as cause of psychological disturbance a personality trait, state of person, etc.? (e.g., always been that way, is x, has that personality)

1 = no
2 = yes

PS21

% = 97

K = .95

Does s mention any other causes of psychological disturbance?

1 = no
2 = yes
3 = yes, unrealistically, completely unlikely

PS22

% = 90

K = .84

Does s interpret psychological disturbances as curable?

1 = no, never, overly pessimistic
2 = sometimes, realistic
3 = yes, overly optimistic
5 = no answer

PS23 % = 97 K = .95	Does s distinguish between outright cure of psychological disturbances and amelioration of, adaptation to these? 1 = no 2 = yes
PS70 % = 86 K = .77	Does s mention mental hospitals, asylums? (Do not score simple reference to going to the doctor to get patched up) 1 = no, neither 2 = yes, asylums 3 = yes, therapy 4 = yes, both
PS129 % = 90 K = .84	Does s say that interpersonal factors cure psychological disturbances and/or that specific concrete changes in the environment (e.g., moving to a new school) cure psychological disturbances? 1 = no, neither 2 = yes, interpersonal 3 = yes, concrete 4 = yes, both
PS130 % = 97 K =.95	Does s say or suggest that insight cures psychological disturbances? 1 = no 2 = yes

PS27

% = 100

K = 1

Does s mention medical or surgery interventions for psychological disorders, insulin coma, shock, drugs, etc.?

1 = no
2 = surgery
3 = drugs
4 = both 2 & 3
5 = nonspecific

PS26

% = 100

K = 1

Does s mention any fantastic, nonexistent, wild ideas for curing mental illness and or "just getting over it","snapping out of it", etc.?

1 = no, neither
2 = yes, just get better
3 = yes, wild ideas
4 = yes, both

PS25

% = 97

K = .95

Very broad

Does s mention any other coping device/technique, for psychological disturbance?

1 = no
2 = yes
7 = yes, totally unrealistic

PS24

% = 100

K = 1

Does s refer to the idea that a cure will be found for psychological disturbances?

1 = no
2 = yes, cure will be found

PS28 % = 93 K = .88	What is s prediction about marriage? 1 = no, I don't think so, probably not 2 = yes, often do, can if they want to, maybe 5 = I don't know
PS29 % = 93 K = .88	What is s prediction about children? 1 = no, I don't think so, probably not 2 = yes, often do, can if they want to, maybe 5 = I don't know
PS30 % = 93 K = .87	Does s say that it would be frustrating, make one angry, etc. to be psychologically disturbed? Scary? (Note: sees anger etc. as affect defining psychological disturbance, but anger in reaction to other disturbance) 1 = no 2 = yes, scary 3 = yes, frustrating 4 = yes, both
PS32 % = 100 K = 1	Does s describe psychologically disturbed people in terms of vulnerabillty to physical accidents, injury? 1 = no 2 = yes

PS34

% = 100

K = 1

Does s say or suggest that psychological disturbances put one in touch with essential values, important things in life, etc. and/or triumphing over transcending mental illness?

1 = no
2 = yes

PS35

% = 97

K = .95

Does s discuss psychological adaptation to psychological disturbance? (e.g., knows he's schizophrenic and has learned special ways to live his life...) and/or of parents?

1 = no
2 = yes, PS person
3 = yes, parents only
4 = yes, both

PS36

% = 76

K = .61

Interpret very broadly

With regard to psychological disturbances, does s raise the issue of making contact with other people, staying in touch with people, intimacy?

1 = no
2 = yes

PS37

% = 93

K = .88

With regard to psychological disturbances, does s raise any stigma-related issues other than teasing, ridicule? (social rejection, exclusion, prejudice, job discrimination..)

1 = no
2 = yes

PS38

% = 79

K = .67

Interpersonal only

Does s say that the mentally ill are dependent on other people or need alot of help?

1 = no
2 = yes, dependent
3 = yes, helping
4 = yes, both

PS39

% = 83

K = . 71

Does s portray psychologically disturbed people as acting different form other people, strange, odd, wierd, socially out of it, inappropriate and or looking different?

1 = no
2 = yes (act)
3 = yes (look)
4 = yes (both)

PS40

% = 100

K = 1

Does s say or suggest that society, people, treat psychologically disturbed people badly, should change; should change attitudes, behaviors; avoid doing certain things, etc.?

1 = no
2 = yes

PS41

% = 97

K = .94

Does s portray psychologically disturbed people as vulnerable to exploitation, apt to be used, cheated by others and or vulnerable to physical abuse/exploitation?

1 = no, neither
2 = yes, physical
3 = yes, interpersonal
4 = yes, both

PS42

% = 83

K = .73

Is s aware of teasing, stigma in relation to mental illness? (Does he/she mention this?)

1 = no, never
2 = maybe, occasioned, covered
3 = yes, (says, "mentally ill person is, might be teased".)
4 = attributes only to children

PS43

% = 93

K = .87

With regard to ridicule, teasing, of psychologically disturbed people, does s:

1 = reject teasing, deplore
2 = accept, say it is natural, tolerate it

PS44

% = 97

K = .94

Does s mention playing sports, being able to play sports, etc. in relation to psychological disturbances?

1 = no, doesn't mention
2 = yes, still can
3 = yes, with great admiration expressed by subject
4 = no, could not

PS45

% = 100

K = 1

Does s exaggerate the limitations imposed by psychological disturbances? (e.g., to suppose one could never do anything, be unable to carry out any tasks, engage in physical activities, etc.)

1 = no
2 = yes

PS46

% = 93

K = .88

Does s portray the E.D. as being emotionally fragile, sensitive, etc. than other people or more open to/in touch with feelings?

1 = no
2 = yes

PS67

% = 100

K = 1

Does s heavily emphasize definitional issues and problems of psychological disturbances?

1 = no
2 = yes

PS68

% = 93

K = .89

Does s discuss:

1. severly disturbed people only, dramatic cases (e.g., psycholtics, suicide, bizzare behaviors)
2. mildly disturbed people only (neurosis, personality quirks, isolated symptoms)
3. both of the above

PS120

% = 86

K = .76

Not tantrums

Does s describe psychological disturbance in terms of having fits, seizures, etc. and/or suicide?

1 = no, neither
2 = yes, seizures, moods, fits
3 = yes, suicide
4 = yes, both

PS121

% = 100

K = 1

Does s say something to the effect that everyone has some kind of psychological disturbance?

1 = no
2 = yes

PS132

% = 97

K = .95

Does s discuss psychological disorders in terms of any unusual, extreme dramatic cases? (e.g., Three Faces of Eve, bizzare psychopaths on t.v.)

1 = no
2 = yes

PS133

% = 90

K = .83

Does s mention any affective aspects of psychological disturbance? (feel different emotions, more or less intensely, characteristically angry, rage states, any reference to emotions as part of the problem)

1 = no
2 = yes

PS47

% = 83

K = .73

Does s show any idealization of psychologically disturbed people (e.g., crazy people have moments of great insight) and/or speak as an advocate for psychologically disturbed people?

1 = no, neither
2 = yes, advocate
3 = yes, idealization
4 = yes, both

PS48

% = 90

K = .83

Does s seem to be afraid of the mentally ill and/or pity (outright) them?

1 = no, neither
2 = yes, fear
3 = yes, pity
4 = yes, both

PS49

% = 93

K = .87

Broad, and/or seem condescending, patronizing

Does s mention wanting to avoid offering unwanted, unneeded help, avoiding oversolicitiousness, etc. toward psychologically disturbed people?

1 = no
2 = yes, don't give unwanted help
3 = yes, condescends
4 = yes, both 2 & 3

PS50

% = 97

K = .94

Specific, people feel like this when they are around them

Does s describe feelings of awkwardness, uncertainty about what to do, such discomfort in relation to psychologically disturbed people?

1 = no
2 = yes

PS51

% = 93

K = .87

Does s say or suggest that psychologically disturbed people "use their handicap", derive secondary gain from it, use ot to manipulate other people, to gain attention special treatment, etc.?

1 = no, or if s says others were wrong or mean to assume yes
2 = yes, or if s says someone acted crazy for attention

PS52

% = 90

K = .83

Does s seem to have an overall negative evaluation of the personal worth of psychologically disturbed people?

1 = no
2 = yes, negative feelings
3 = yes, worth
4 = yes, both

PS53

% = 90

K = .83

Does s say that the emotionally disturbed are just like everyone else (except...) and/or does s deny the extent to which psychologically disturbances impose limitations: talk as if this handicap is not a handicap, deny it's disabling?

1 = no, neither
2 = yes, like everyone
3 = yes, denied
4 = yes, both

PS54

% = 97

K =.94

Broad

Does s express positive aspects to being psychologically disturbed?

1 = no
2 = yes

PS55

% = 90

K = .84

Broad

Does s express any negative feelings about psychological disturbance?

1 = no
2 = yes, fairly mild, I wouldn't like it, not fun, hard, wierd, scary
yes, strong, negative, fate worse than death, hate it, etc.

OTHER1

% = 93

K = .87

In response to the specific question about other things that belong in the interview, does s respond with any appropriate conditions that could (even remotely) be considered handicaps? (Code only response to the first question on final page.)

1 = no
2 = yes

OTHER2

% = 80

K = .63

Does s mention anywhere learning disabilities, dyslexia, etc. and/or speech impediments, stuttering, speech therapy, or such?

1 = no
2 = yes, learning disabilities, dyslexia, etc.
3 = yes, speech impediments, stuttering, etc.
4 = yes, both 2 & 3

OTHER3

% = 93

K = .71

Does s mention alcoholism anywhere in the interview and/or drug abuse (in relation to handicaps, not simply reference to kids in schools)?

1 = no
2 = yes, alcoholism
3 = yes, drug abuse
4 = yes, both 2 & 3

OTHER5

% = 97

K = .70

Does s mention aphasia, brain lesions, brain damage, etc. as distinct from mental retardation or as a clear sub-class of mental retardation?

1 = no
2 = yes

CODE FOR "ALL" HANDICAP VARIABLES

01. = No
02. = Blind
03. = Deaf
04. = Ortho
05. = MR
06. = Psych
07. = Blind + Deaf
08. = Blind + Ortho
09. = Blind + MR
10. = Blind + Psych
11. = Deaf + Ortho
12. = Deaf + MR
13. = Deaf + Psych
14. = Ortho + MR
15. = Ortho + Psych
16. = MR + Psych
17. = Blind, Deaf, Ortho
18. = Blind, Deaf, MR
19. = Blind, Deaf, Psych
20. = Blind, Ortho, MR
21. = Blind, Ortho, Psych
22. = Blind, MR, Psych
23. = Deaf, Ortho, MR
24. = Deaf, Ortho, Psych
25. = Deaf, MR, Psych
26. = Ortho, MR, Psych
27. = Blind, Deaf, Ortho, MR
28. = Blind, Ortho, MR, Psych
29. = Blind, Deaf, Ortho, Psych
30. = Blind, Deaf, MR, Psych
31. = Deaf, Ortho, MR, Psych
32. = Blind, Deaf, Ortho, MR, Psych
33. = Yes, not specific to any handicap or combination

00. = Unaware
99. = Missing Data
98. = I don't know, asked but does not respond

ALL1 % = 100	Does s seem to believe that artificial bionic-like replacements exist that can cure this handicap? e.g. legs, eyes, brain, etc. that function like the real thing.
ALL2 % = 97	Does s say that this handicap can't exist because of the limitations it involves?
ALL3 % = 93	Does s say or suggest that people with this handicap are unaware of it?
ALL4 % = 97	Does s say or suggest that people with this handicap are potentially harmful or are harmful?
ALL5 % = 97	Does s say or suggest that people with this handicap are sad, morose, or melancholy?
ALL6 % = 100	Does s say or suggest this is contagious?
ALL7 % = 93	Does s say or suggest that coping devices totally or nearly totally compensate for this handicap?
ALL8 % = 100	Does s attribute to people with this handicap any special gifts or powers?

ALL9 % = 97	Does s associate handicap with religion or God?
ALL10 % = 97	Does s express disgust, revulsion toward people with this handicap?
ALL11 % = 93	Does s suggest doubt as to the right of people with this handicap to marry and/or have children?
ALL12 % = 100	Does s become upset or avoid discussion with regard to handicap or interview?
ALL13 % = 100	Does s say that any handicap is a fate as bad as or worse than death?
ALL14 % = 90	Does s give any facts about history or cross-cultural difference in ways handicapped people are treated?
ALL15 % = 93	Does s mention any practical concerns about handicapped people having children? (safety, money)
ALL16 % = 97	Does s say (concretely or unrealistically) that handicap would be an impediment to wedding, birth?

ALL17 % = 93	Does s express doubt about own ability to understand what it would be like to have this handicap?
ALL18 % = 97	Does s distinguish between intellectual vs. emotional reactions to people with this handicap?
ALL19 % = 97	Does s indicate expectation of having this handicap, close brush with it, or real dealing with prospect?
ALL20 % = 100	Does s say outright that handicapped person is to blame for handicap?
ALL21 % = 97	Does s say that other people are to blame for handicap (outright fault)?

CONF1 % = 93	Confuses blind-deaf
CONF2 % = 100	Confuses blind-orthopedic
CONF3 % = 100	Confuses blind-mentally retarded
CONF4 % = 100	Confuses blind-psychological
CONF5 % = 100	Confuses deaf-orthopedic
CONF6 % = 100	Confuses deaf-mentally retarded

CONF7 % = 100	**Confuses deaf-psychological**
CONF8 % = 100	**Confuses orthopedic-mentally retarded**
CONF9 % = 100	**Confuses orthopedic-psychological**
CONF10 % = 97	**Confuses mentally retarded-psychological**

Edcon

% = 100

K = 1

Does s mention learning about handicaps in school (not coded elsewhere) e.g., learned in biology class; course on handicaps?

1 = no
2 = yes, (For adults 2 = married to doctor, course, other such source of information, not specific to one handicap.

STA1

% = 77

K = .72

Does s decide in favor of same school?

1. same
2. different
3. maybe one, maybe the other, mixed other (misc. doesn't fit elsewhere, complications)
4. same regular school
5. same special school
6. different special schools
7. different until skilled for mainstreaming
0. young s unable to attend and respond, doesn't really answer
9. no response, missing data

STA4

% = 97

K = .81

The way things are perceived to be now justifies decision: (e.g., the blind do go to......)

1 = no
2 = yes

STA5 % = 100 K = 1	Refers decision to a higher authority (e.g., parents themselves, doctors, principals, teachers should decide. Should be tested, diagnosed) 1 = no 2 = yes
STA6 % = 90 K = .79 Interpret broadly, if in doubt, code yes	Mentions emotional and/or social development, well being of the children themselves--their happiness, security, self-image, where they would be happy, how together they are (e.g., "You need each other," socially frustrating," Because they are friends, If they want to.) 1 = no 2 = yes
STA7 % = 93 K = .87	Mentions academic and/or special academic needs of protagonists. Where they will learn best, least, most. (Mentions learning problems, learning braille, sign language, working, learning to read, needing special teachers) (DO NOT CODE HERE: general social needs. S must refer specifically to academic, intellectual learning.) 1 = no 2 = yes
STA8 % = 97 K = .95	Considers protagonists' mental stability, integration, ability to cope (e.g., "If kids are emotionally equipped to deal with their handicaps..) 1 = no 2 = yes

STA9 % = 100 K = 1	Explicitly refers to the children being with those "like themselves" (e.g., "Kids are socially more successful with their own kind") (NOT: vague social references like "less isolating", dealing with "real world") 1 = no 2 = yes, as a good thing 3 = yes, as a bad thing
STA10 % = 93 K = .81	Mentions social reactions of other children. 1 = no 2 = yes, Pollyannish, idealistic, unrealistic, overoptimism (everyone acts wonderful to them) 3 = positive or neutral acceptance, unique viewpoints, understand what they can contribute 4 = yes, negative 5 = yes, both positive and negative
STA11 % = 100 K = 1	Portrays teasing, ridicule, social rejection, stigma as a certainty. 1 = no 2 = yes (I see social problems. Kids as a group are nasty and single out people who are different.)

STA12 % = 93 K = .76	Mentions effect of mainstreaming on teacher (e.g., pose problems for teacher, demand attention of teacher, be hard on teacher) 1 = no 2 = yes
STA13 % = 90 K = .63	Explicitly mentions academic or specific moral effect of mainstreaming on the nonhandicapped--what lessons, moral, academic, they would or would not learn. 1 = no 2 = yes, positive (realize everyone's not so lucky as they are, learn that people differ) 3 = yes, negative (learn less academically) 4 = yes, both positive and negative (difficult to learn with them in class)
STA14 % = 100 K = 1	Relates decision to moral issue, general principle, society's responsibility; everyone has a right...) 1 = no 2 = yes
STA15 % = 93 K = .63 narrowly	Presents naively optimistic picture of special school. Not just positive, but idealistic, unrealistic. 1 = no 2 = yes

STA16 % = 80 K = .62	Gives qualified, relativistic response: It depends upon whether ..... If the school had, then....... If the deaf child knew how to ..... If a school had ..... 1 = no 2 = yes
STA17 % = 73 K = .70 Code for best part - highest possible	Awareness of communication difficulties between the children. 1 = no, mentions no difficulty 2 = yes, that difficulty would exist, even a little 3 = yes, spells out the extreme difficulty in detail--communication close to impossible without special provisions
STA19 % = 90 K = .78	Decision about playing together: 1. do not play, probably do not 2. do, probably, could, might 5. I don't know (nothing else)
STA20 % = 90 K = .76 Interpret broadly	Does s mention the children helping or benefitting one another? (One can hear for the other, explain things to each other, give each other security) 1 = no 2 = yes

STA22

% = 97

K = .94

What does s say about the possibility of the blind child becoming deaf?

1. Could not, immune, doesn't happen
2. yes, might, could (e.g., "sure", could have accident, same as anyone else, of course) (Note: include impossible causes: "fire engines could make her deaf")
3. yes, expressing idea of contagion, catching it
4. very uncertain, "Don't know"
9. missing data

STB1

% = 87

K = .83

Decision is that Joe attend:

1..special school
2. regular school
3. maybe one, maybe the other
4. special class in regular school
5. regular school but with tutors, special teaching, resource room, etc.
6. special school first (then regular, if he hasn't been in one already)
8. don't know
9. missing data
0. totally inattentive

STB2

% = 100

K = 1

Does justify by asserting he "just schould go", I want him to", "He wants to", "I think so"? (Note: NOT "If he wants to")

1 = no
2 = yes

STB[illegible]

% = 97

K = .86

S considers by the way things are now perceived to be--kids like this do go to special schools.

1 = no
2 = yes

STB5

% = 93

K = .82

Decision is referred to a higher authority--parents should decide, doctors, principal, have him tested, "Has he been diagnosed?"

1 = no
2 = yes

STB6

% = 90

K = .80

Mentions Joe's emotional or social development, happiness, well-being, self-image, security at one school or the other--where he'll be happier, get along better socially.

1 = no
2 = yes

STB7

% = 97

K = .94

Considers Joe's academic and/or special academic needs--where he will learn best (that he needs special teachers, learning problems).

1 = no
2 = yes

STB8

% = 97

K = .89

Considers Joe's ability to cope, "whether he can make it", adaptive ability, mental stability (e.g., if emotionally equipped; see if he can make it in a regualr school ....)

1 = no
2 = yes

STB9

% = 97

K = .91

Explicitly mentions idea of Joe being with kids like himself.

1 = no
2 = yes, as a good thing (Kids are socially more successful with own kind; so he will be with people like himself)
3 = yes, as a bad thing
4 = yes, both good and bad

STB11 % = 87 K = .65	Does s specifically mention teasing, ridicule, kids acting mean, stigmatization? (IF "Yes", B10 must be 4 or 5) 1 = no 2 = yes
STB23 % = 90 K = .62	Does s say outright, with certianty, that Joe would be ridiculed, teased, rejected in a regular school, and/or that kids like this are rejected in school? (Actual prediction, teasing is a certainty) 1 = no 2 = yes (IF "Yes", B10 must be 4 or 5, and B11 must be yes.)
STB12 % = 100 K = 1	Mentions effects of mainstreaming on teachers (pose problems for them, demand their time, hard on them). 1 = no 2 = yes, negative, difficult, hard 3 = yes, positive (they would like it)
STB13 % = 97 K = .81	Explicitly mentions academic or moral learning for nonhandicapped children in mainstreaming--what lessons they would learn). 1 = no 2 = yes, positive--learn more, benefit 3 = yes, negative--learn less because of demands on teacher 4 = yes, both positive and negative

STB14 % = 97 K = .70	Does s relate decision to a general principle, moral issue? (e.g., right to public education) 1 = no 2 = yes
STB15 % = 93 K = .61	Does s give a naively optimistic, overidealistic picture of the special school? 1 = no 2 = yes
STB16 % = 93 K = .81	Does s give a qualified, relativistic response? (Depends upon whether; If he's already, then...) 1 = no 2 = yes
STB24 % = 97 K = .92 If in doubt, code yes	Does s moralize Joe's difficulty, deny problems? ("They'd find out he's just like everyone else", find out he really doesn't have any problems... nothing wrong) 1 = no 2 = yes
STB25 % = 97 K = .92 If in doubt, code yes	Does s say that the special school would prepare Joe for dealing with teasing, ridicule, hostile reactions of the nonhandicapped? 1 = no 2 = yes

STB26

% = 93

K = .88

Does s "diagnose" Joe or refer to diagnosis?

1 = no
2 = yes, asks if he has been, is diagnosed, is normal
3 = yes, assumes, says mental retardation
4 = yes, assumes, says emotionally disturbed
5 = yes, other

(if both 2 and 3, 4, or 5 code 3, 4, or 5)

HARD1
% = 80
K = .75

What does s say would be the hardest handicap?

Use "ALL" codes

HARD2
% = 97
K = .95

What does s say would be the easiest handicap?

Use "ALL" codes

HARD6
% = 83
K = .66

Does s mention, in justifying hardest, easiest handicap choice, what one will still be able to do, as a justification? (e.g., blind because you could still hear.)

0 = not codable
1 = no
2 = yes
9 = missing data

HARD7
% = 97
K = .81

In justifying easiest/hardest handicap choice, does s mention vulnerability to physical injury, getting hurt in accidents, bumping into things...?

1 = no
2 = yes

HARD10 % = 100 K = 1	Does s consider as basis for his/her preference the stage of life at which the handicap was acquired? (i.e., birth as opposed to the loss occuring later) 1 = no 2 = yes
HARD11 % = 100 K = 1	In justifying hardest/easiest handicap choice, does s mention athletics, playing sports? 1 = no 2 = yes
HARD12 % = 100 K = 1	In justifying hardest/easiest handicap choice, does s mention working, being able to work, being able to find employment as an issue? 1 = no 2 = yes
HARD13 % = 97 K = .95	In justifying hardest/easiest handicap choice, does s raise the issue of vulnerability to exploitation, being cheated, used, tricked? 1 = no 2 = yes

HARD14

% = 100

K = 1

In justifying hardest/easiest handicap choice, does s mention teasing, ridicule, vulnerability to mimicry or ridicule?

1 = no
2 = yes

HARD15

% = 100

K = 1

In justifying hardest/easiest handicap choice, does s mention issues of social adjustment, how one is treated by others, not fitting into peer groups, etc?

1 = no
2 = yes

HARD16

% = 100

K = 1

In justifying hardest/easiest handicap choice, does s mention dependency, needing help?

1 = no
2 = yes

HARD17

% = 100

K = 1

With regard to justification of hardest/easiest handicap decision, does s mention anything about ease, difficulty of making contact with other people via senses? (NOT: speech communication) (e.g., importance of seeing faces, hearing voices sexual contact, etc.)

1 = no
2 = yes

HARD18

% = 90

K = .67

Does s, in justifying hardest/easiest handicap choice, mention communication with other people as a factor? (You could still talk to people.)

1 = no
2 = yes

HARD19

% = 90

K = .67

In justifying hardest/easiest handicap choice, does s raise issue of being able to lead a "normal" life, do things like everyone else, really be like other people, (if you are . . . you're not really different, you just can't . . .) retaining identity, being "all there," "complete," "whole"?

1 = no
2 = yes

HARD21

% = 100

K = 1

In justifying hardest/easiest handicap choice, does s mention (positively) that one would be oblivious to, protected from, certain information?

1 = no
2 = yes

HARD22

% = 90

K = .67

In justifying hardest/easiest handicap choice, does s mention his own psychology, temperment, etc. as a factor in the choice? (I myself would find X hardest because of the kind of person I am.)

1 = no
2 = yes

ACQ1 % = 97 K = .80 Specific	Does s mention that deaf person's speech is related to not hearing own voice? 1 = no 2 = yes
ACQ2 % = 93 K = .75	With regard to the acquisition of hearing by a deaf person, does s mention anything about how speech would be noise, not meaningful, incomprehensible? 1 = no 2 = yes
ACQ3 % = 83 K = .65	Does s understand that acquisition of hearing would in any way affect speech? 1 = no 2 = yes 5 = says "I don't know"
ACQ4 % = 90 K = .84	With regard to acquisition of hearing by a deaf person, does s say: 1. No or not codable. 2. That the person would simply be glad, happy, overjoyed. 3. That there might be some discomfort, shock, disorientation involved. E.g. it would seem funny, strange, etc.

ACQ6

% = 100

K = 1

Does s say that protagonist's hearing will never be the same as others' experience of hearing?

1 = no
2 = yes

RET1 % = 100 K = 1	Does s show familiarity with the word "retard"? 1 = no 2 = yes
RET3 % = 100 K = 1	Does s say that "retard" means socially awkward, weird, out-of-it, unpopular, peculiar in behavior, silly foolish? 1 = no 2 = yes
RET4 % = 100 K = 1	Does s interpret term as being a serious, non-derogatory reference to the mentally retarded? 1 = no 2 = yes
RET6 % = 97 K = .90	Does s say that "retard" means stupid, dumb, in error? 1 = no 2 = yes
RET8 % = 97 K = .90	Does s say that people don't really mean M.R. when they use "retard," don't understand what it means, etc.? 1 = no 2 = yes

RET9

% = 90

K = .67

Does s say that "retard" is used principally as a joking term, for kidding around?

1 = no
2 = yes

RET11

% = 93

K = .86

Does s say that he himself or "me and my friends" etc. ever use the word "retard"?

1 = no
2 = yes, they do/ he or she does
3 = no, explicitly disowns term

RET12

% = 90

K = .85

With regard to the use of "retard" as an epithet, to people's faces, does s report it used to:

1 = No one, people never call anyone that
2 = The mentally retarded only
3 = The non-mentally retarded only
4 = Both mentally retarded and non-mentally retarded
5 = Unclear to whom it is used (If in doubt, code #5.)

RET13

% = 90

K = .83

S says that the term "retard" is used to refer to:

1 = Mentally retarded only
2 = Non-mentally retarded only, never about mentally retarded
3 = Both mentally retarded and non-mentally retarded
4 = Vague, can't tell from s's statement about whom it is used

RET14

% = 100

K = 1

Does s discuss "retard" as a chronic term used to characterize people? (X gets called it a lot because . . .) (Code yes if s says it's ever used this way.)

1 = no
2 = yes

RET15

% = 100

K = 1

Does s discuss "retard" as referring to (isolated) pieces of behavior? (E.g. tells anecdote in which person displayed incompetence at something and was called "retard" by peers.)

1 = no
2 = yes

RET16

% = 100

K = 1

Does s make a distinction between behind one's back vs. to one's face use of derogatory terms?

1 = no
2 = yes

BLTERM % = 99 r = .98	Total number of blindness terms
DFTERM % = 88 r = .78	Total number of deafness terms
ORTERM % = 73 r = .57	Total number of orthopedic handicap terms
MRTERM % = 96 r = .93	Total number of mentally retarded terms
PSTERM % = 99 r = .98	Total number of psychological disturbance terms
ETCTERM % = 93 r = .87	Total number of other technical terms

NOWOFF % = 94 r = .89	Number of terms now offensive used naively
OFF % = 93 r = .87	Epithets s uses or says are used (S does not explicitly disown.)
OFFNOTME % = 97 r = .94	Epithets s mentions and disowns

Guidelines for Coding Terms

The following lists of terms are intended to serve as a guide for coding numbers of handicap-related terms. These lists give examples of terms which are included in the coding of specific types of terms. When appropriate, examples of terms that are not included are also given. These lists simply give examples. Not all of the terms listed here were actually produced by subjects. In coding interviews, terms not found on the list are counted if they resemble the examples given. For example, the term Perkins School is listed, but the names of other institutions for the blind would be counted as well.

BL TERM - Blindness

blind
visually impaired
partially sighted
legally blind
seeing eye dog
guide dog
Braille
visually handicapped
tactile map
cornea
retina
pupil
optic nerve
glaucoma
diabetes (used in relation to blindness) + other names of diseases
cane (if used in relation to blindness)
Perkins School
optical system
braille watch

Do Not Count

glasses
eye infection
seeing double

Deafness Terms

deaf

hearing impaired

hard of hearing

hearing aid

sign language

signing

reading lips

lip reading

finger spelling

auditory impairment

mute

ear drum , stapes, and other parts of ear

to sign

bone conduction

"drum" if clearly short for "ear drum"

Do Not Count

talks with hands

trouble hearing

earache

ear infection

OR TERM - Orthopedic Handicaps

orthopedic handicap

orthopedic

crippled

paralysis, paralyzed

walker

m.s.

c.p.

prosthesis

artificial leg, arm

Easter Seals

ruptured disc

physical therapy

ramps

motorized wheelchair

amputation

polio

quadriplegic

paraplegic

spine, spinal tissue, spine injury

cast

Do Not Count

broken leg, foot, etc.

maimed

"a cripple"

limp

stub

MR TERM - Mental Retardation

mentally retarded, retardate, M.R.

mildly retarded

mentally handicapped

EMR

educable

trainable

profoundly retarded

retarded

Downs syndrome

mentally subnormal, deficient

PKU

slow learner

educationally handicapped

rubella, German measles

developmental disability

developmental delay

chrosomal damage, chromosomes,
DNA, RNA, etc.

amniocentesis

Fernald School

exceptional (to mean MR)

functionally retarded

Do Not Count

slow

congential

genetic

PS TERM - Psychological terms

mentally ill
neurotic
psychotic
psychotherapy, therapy
psychiatry, psychiatrist
psychologist, clinical psychologist
social worker
therapost
counselor
autistic
schizophrenia
manic-depressive
hysteria
split personality, multiple personality
traumatic experience
repressed
paranoid (not used loosely)
obsession, mania, etc. (not used loosely)
agoraphobia
_______phobia
phobia
tranquilizers
valium
anti psychotic drug
E.S.T., Insulin coma

mental institution
mental hospital
Laingian
Freudian - Freudian slip
behavior modification
behavior therapy
psychopathology
psychopath
psychotic break
psychotic episode
decompensation
insane
insanity
madness

(See psychological terms that do not count on the following page.)

Psychological Terms that Do Not Count

nervous breakdown

psychological problems

emotional problems

crazy

having problems

suicide

pathological

clinical

ETC TERM - Speech, L.D., chronic illness, other general terms

speech impediment, defect
stutter
speech therapy
mute, (NOT in relation to deafness)
aphasia
articulation disorder
lisp
l.d.
learning disabled
minimal brain damage, dysfunction
mainstream
epilepsy
hysterical blindness
multiple handicap
measles
oxygen deprivation
genetic counseling
tumor
heart attack
stroke
heart defect
child abuse
alcholism
artificial heart

drug abuse
hyperactivity
asthma
diabetes (if used generally, not just in relation to blindness)
"exceptional" used generally
deviance
special needs
hyperthyroid
pitituory

Do Not Count

speech problems
hyper

OFFENSIVE TERMS

Category 1: consists of terms now offensive, but originally technical or descriptive. Count if used without apparent derogatory intention, as in naive, old-fashioned way.

"deaf-and-dumb"
Mongoloid, a Mongol
lame
insane asylum
dumb (to mean mute)

"deaf-mute"
"a cripple"
blind as a bat
deaf as a door knob (post)
moron
idiot
imbicile
used without offensive intent

Category 2: Epithets s.uses, or indicates are in general use.

retard - if spontaneous
loonie
dummie
idiot
moron

spastic
mental

Not: "crazy" or "retarded"

Category 3: Epithets as in Category 2, but which s. explicitly disowns. (Others would say, but I don't like that word...)

Do Not Code as Technical

tissue damage

tissues

culturally conditioned

manual dexterity

crisis

special class

______ problem (e.g., eye, ear, mental, emotional, learning)

"END OF DOCUMENT"